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Contents

The Chicago and Aurora Railroad 6
Rails Among Peaks 21
The Railroads of McKeen County, Pa. 38
Worth Reading 69
New Books 75
In Memory of 80

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In presenting this bulletin to our members we hope you will enjoy another account of Rails Among the Peaks by Mrs. Crum, which will be the last in the series of articles that she has contributed. Mr. Newton has favored with another interesting and instructive account of the formation of the present Burlington System, the Chicago & Aurora R. R., successor of the Aurora Branch which was featured in our BULLETIN #74. To Mr. Allen, we are indebted to an interesting study of the railroads in McKean County, Pennsylvania. The first portion of his contribution is included herewith and, we believe that the railroads in the north-western part of that state, upon which but very little has appeared in print, in our publication at least, will find favor to our readers.

Mr. Kuhler has again favored us with a cover design and this scene is somewhere along the Denver & Rio Grande, we let you name the place and make your own selection.

The Chicago and Aurora Railroad

June 22, 1852

to

February 21, 1855

PART II

By A. W. Newton
Consulting Engineer, C. B. & Q. R. R.

While the existence of this company, successor to the Aurora Branch Railroad Company dates from June 22, 1852, the trend of events during the few months preceding this date is marked with preparatory actions and plan developments leading up to the formation of the new company and subsequent extension from Aurora to Mendota, Illinois.

The Aurora Branch Railroad, planned, financed, and built by local interests, soon found itself embarrassed because of limited funds and unable to pursue its declared intention of extending the line westward from Aurora. Although completed and in operation since October, 1850, and producing good net revenues, it not only had the burden of a $45,000 bond issue, but a considerable floating debt, as the sale of stock was inadequate to furnish the immediate cash necessary; nor had it been possible to dispose of additional stock locally.

For future extension of the line, outside capital must be obtained. Of itself, the 13 mile Aurora Branch Road would not attract outside capital. By January, 1852, the company was in such financial straits, that its President, Mr. James F. Wadsworth, also a director, while in the East in the "spring of 1852," endeavored to enlist the interest of eastern capitalists. That his mission was successful, is borne out by developments during the next few months.

Unsuccessful in New York, he then went to Boston, where he, with two other men, Mr. James C. Grimes of the Peoria and Oquawka Railroad, and Mr. Chauncey S. Colton, of the Central Military Tract Railroad, who were in Boston at the same time, and on a similar mission, met Mr. John M. Forbes, a financier, already the owner of and building the Michigan Central Railroad into Chicago.

The time of this "meeting in the Spring" must have been sometime between April 15, 1852, when Mr. Colton was elected a director of the Central Military Tract Railroad, and May 13, 1852, on which date Mr. Wadsworth resigned as president and director of the Aurora Branch Railroad.

The above is predicated upon a statement in the "Colton Manuscript" describing a discussion between these three men in the American Hotel, Boston, prior to their meeting with Mr. Forbes. Mr. Colton said: "I remarked that we were each *a director* in a separate railroad." At this time Mr. Forbes had as his associates and representatives at Detroit, Michigan, Mr. John W. Brooks, a prominent engineer and operating man

who was in charge of construction and operation of his Michigan Central project; and Mr. James F. Joy, a lawyer of high repute in railroad law and railroad legislation.

In these two men Mr. Forbes placed great confidence and to them he delegated complete authority in handling his railroad activities in what was then "the far West." He evidently was favorably impressed with the proposal of Mr. Wadsworth and the other two men, but with his usual caution in making financial commitments he referred them to two of his associates in New York, Messrs. Green and Griswold, who were directors of the Michigan Central Railroad.

Probably Mr. Grimes was delegated to see these parties in New York, because of his being a lawyer and of his better acquaintance with problems of financing then either of the other two men. Green and Griswold, in turn, referred Mr. Grimes to John W. Brooks at Detroit, then chief operating officer of the Michigan Central Railroad.

If as stated, the meeting in Boston occurred between April 15th and May 13th; then the conference between Mr. Grimes and Mr. Brooks occurred after April 15th, and Mr. Brooks was already interested in the Aurora Branch Railroad, for he had some two months earlier, on February 22, 1852, been elected a director of that road, indicating that he had already become acquainted with that road and its possibilities and had proceeded with the acquisition of some of its stock. He knew Mr. Forbes' interest in railroad development in Illinois. As an officer of the Michigan Central Railroad he too was interested in gaining control of one of the roads then extending west from Chicago, with a view to attracting to his road some of the rapidly developing Illinois business. He saw that there was no possibility of gaining control of the traffic of the Galena and Chicago Union Railroad, then building across the State to the Mississippi River, and being financed by other interests. Likewise, because being financed by the Michigan Southern Railroad, an active competitor, he saw no possibility of control of the Chicago and Rock Island Railroad, also building across the State.

The remaining possibility, unless an entirely new line be projected, was to acquire control of the Aurora Branch Railroad, and this he was evidently accomplishing even before Mr. Grimes visited him in Detroit, following the Boston meeting in "the Spring of 1852."

With the ideas brought to him by Mr. Grimes, fresh from his conference with Mr. Forbes, Mr. Brooks doubtless was able, in collaboration with Mr. Joy, to formulate a plan for eventual consolidation of the three roads into a single operating unit that would give a continuous railroad across the State of Illinois, and that could compete with the two other roads then building.

That he had acquired a considerable interest in the Aurora Branch Railroad at the time of his election to its directorate February 22, 1852, is evident, for at the meeting of the stockholders, two other eastern men were also elected; Mr. Allen Robbins, a New York banker, and Mr. G. C. Davidson of Albany, New York, who was a business partner of Mr. Erastus Corning, then president of the Utica and Schenectady Railroad and a director of the Michigan Central Railroad.

It may, therefore, be stated that the advent of eastern capital into the Aurora Branch Railroad occurred on this date, an event that finally culminated in the organization and building of the Chicago, Burlington & Quincy Railroad Company. With the entrance of Brooks, Allen and Griswold into the directorate of the Aurora Branch Railroad, activities towards its extension west from Aurora began.

February 23, 1852, the board of the Aurora Branch Railroad took immediate steps for the construction of a line south westward from Aurora (the then terminus of the road) to a connection with the Galena Branch of the Illinois Central Railroad, then building. Mr. George W. Waite was appointed engineer in charge of surveys.

At the same time Mr. James F. Joy, Mr. Forbes' legal representative, was instructed to procure an amendment to the road's charter, by which it would be permitted to build the "extension"; to increase its capitalization from $600,000 to one million dollars; and to change the name of the railroad from the Aurora Branch Railroad Company to the Chicago and Aurora Railroad.

Prior to February 22, 1852, the Aurora Branch Railroad, in order to clear the way for this proposed extension, and forestall the possibility of a competitive line, had negotiated an agreement February 7, 1852, with the Galena and Chicago Union Railroad, by which the Aurora Branch obtained a lease from that road waiving its rights to "a lateral branch," for which it had already filed its intention, and which was located in the territory through which it was proposed to construct the "extension."

With these preliminaries out of the way, Mr. Brooks proceeded to enlist stock subscriptions in the project, which in a short time was accomplished. There is in the archives of the Burlington the original subscription list, solicited by Mr. Brooks, containing the signatures of twenty-three persons in Detroit and other eastern cities, for a total of 2003 shares of stock in the Chicago and Aurora Railroad Company.

Following the obtaining of these subscribers, Mr. Brooks evidently submitted his plan to Mr. Forbes, which apparently met with his approval, for in a letter by Mr. Forbes to one of his New Bedford, Massachusetts, supporters, he said: "Our friends at the West have taken hold of a piece of new road which they think very highly of and have absorbed it in large lots. It looks very well to me, but I have not time to examine it closely." Later in his letter he cites the names of the subscribers which are practically the same as appear on Mr. Brook's list.

Mr. Forbes soon enlisted others, for in the final subscription list, approved by the board July 16, 1852, there appear the signatures of 52 persons for a total of 4313 shares ($431,300). The form of this subscription was doubtless prepared by Mr. Joy, Mr. Forbes' legal counsellor, after conference with Mr. Brooks and the other directors of the Aurora Branch Railroad, for it contains specific provision for the preservation of the interests of the Aurora Branch Railroad stockholders, even though they were to be a minority interest in the new company.

In the meantime, Mr. Joy, following his instructions of February 22, 1852, had prepared his draft for an amendment to the charter of the

Aurora Branch Railroad, and obtained its passage June 22, 1852, at a special session of the Illinois State Legislature, which had convened at Springfield on June 7, 1852.

By this time the general plan for "a comprehensive scheme of railroads for the State of Illinois" about which Mr. Forbes had "busied himself" was pretty well developed, and it may well be concluded that Mr. Joy, while at Springfield on his mission, had more or less to say regarding amendments to the charters of the Peoria and Oquawaka, the Central Military Tract, and the Northern Cross Railroads, in order that they would fit into Mr. Forbes' "comprehensive scheme." During Mr. Joy's presence in Springfield these amendments were all enacted; the Central Military Tract, June 19; the Northern Cross, June 21; the Peoria and Oquawka, June 22; and the Chicago and Aurora, June 22.

With these preliminaries, all most important and necessary, the formation of the new company by which the Aurora Branch became the Chicago and Aurora Railroad on June 22, 1852 was approved by the board of directors at its first meeting on July 6, 1852, although two of the directors protested against its approval.

Pending the first annual stockholders meeting, not yet called, of the new company, the board of directors of the Aurora Branch Railroad continued as directors of the Chicago and Aurora, as also did the president, Mr. Stephen F. Gale, who had been chosen for that office February 21, 1852.

At this meeting Mr. James F. Joy was appointed to fill the unexpired term of Mr. E. J. Wadsworth, director, who had on May 13 resigned as both president and director. Mr. Joy then became the fourth member of the board representing eastern capital, then in control of the road.

With the money subscribed, the board approved the building of the Aurora-Mendota "extension." While the amended act provided for a capitalization of one million dollars, it was decided by the Board at this meeting to limit the amount of stock, to be sold, to $640,000, and that its use be devoted solely to the "construction and equipment of the extension."

The executive committee (Messrs. Gale, Burch and Van Nortwick) was "authorized to select and determine upon the line for the extension of the road" and also "authorized to contract, by public letting, for construction of the line in order to insure an economical and speedy construction, and equipment of this road."

At the same time a committee composed of Brooks and Davidson was appointed "to negotiate for and purchase the necessary iron (rail) . . . of such form and pattern as they may determine, with the provision that Mr. Erastus Corning, of Albany, be associated with them."

It is interesting to note that this committee concluded to adopt a "compound continuous" design of rail by which it was expected to overcome excessive battering of joints being experienced in the ordinary type of iron rail then in use. This was the first attempt on this road to improve the type of rail, and which the records show to have been a failure, for in a short time it had to be replaced.

For the further purpose of providing funds for construction of the "extension" the president and secretary, at this meeting of the board, were authorized to issue six hundred and forty thousand dollars of bonds of the Company, the proceeds from sale of same "to be exclusively applied to and expended in construction of the extension" and the net revenues or earnings of the road to be "irrevocably pledged" for the payment of these bonds and interest. Mr. Robbins of New York and Mr. Burch of Chicago, both bankers, were "authorized to sell and dispose of the bonds."

At the board meeting July 16, 1852, the committee on route, appointed July 6, submitted its report which was approved. The report gave in detail the location by sections, townships, and ranges, and fixed the western terminus at Mendota, Illinois.

The president and Mr. Brooks were authorized to purchase cars and engines for use of the road.

Mr. Brooks had previously offered to sell to the road an engine, and it is stated in the board minutes, "the communication of J. W. Brooks, Superintendent of the Michigan Central Railroad regarding the Locomotive *Rocket* is referred to the Executive Committee with power to act."

The engine was one of the early types with but two drivers only, weighing twelve tons. It was purchased; was the first locomotive acquired by the Chicago and Aurora Railroad, following its organization; was used in construction service; and later regular service, where it remained until 1858.

It was at this meeting of the board that the form of "stock subscription list" as prepared by the executive committee, was approved, a matter of form. It contained the conditions imposed upon the subscribers as well as their names and shares contracted for. It was in this form that provision for protection of the stockholders of the original Aurora Branch Railroad was made and is here quoted:

> It is especially understood and agreed by the parties subscribing hereto, that the earnings of the Chicago and Aurora Railroad as at present constructed (the Aurora Branch) shall be divided among its stockholders until the completion of said route from Aurora to connect with the Galena Branch of the Illinois Central Railroad, and at and after the completion of said route connecting with the Galena Branch of the Illinois Central Railroad, the stock now subscribed for by us shall be consolidated with the stock of the said road heretofore existing, so as to make one stock thereof, equal in receipts and earnings and to share all dividends and proceeds alike.

At this time, it would seem that the aim of the Company was to effect a connection with the Illinois Central Railroad at Mendota, as stated in the form of subscription list, indicating that the plans west of Mendota had not yet been fully developed. This is borne out by the fact that the Central Military Tract Railroad, in securing amendment to its charter on June 19, 1852, had the proposed route so described that it could still connect with the Chicago and Rock Island, as originally planned. This amendment read: "From the town of Galesburg . . . in a northeasterly direction . . . towards the City of Chicago, to a

point to be designated by the said company on or near the line of the *Chicago and Rock Island Railroad*, or on or near the line of *any other railroad* or *railroads* connecting with or extending to the said City of Chicago."

The Central Military Tract Railroad at this time certainly entertained the idea of a possible connection with the Rock Island road, for as late as October, 1852, according to Mr. James F. Joy, Rock Island officials visited Galesburg on a mission to effect such an arrangement.

Subscriptions for stock of the Chicago and Aurora Railroad seem to have exceeded expectations, for at a meeting of the board on September 14, 1852, the available stock issued was increased from the $640,000 authorized July 6, 1852, to $680,000.

This board meeting was held in Chicago and it was "Resolved, that the office of the company be hereafter kept in Chicago, instead of Aurora." Up to this time all meetings of the board were held at Aurora and the offices of both Secretary and Treasurer were held by Mr. P. A. Hall, a resident of Aurora. At this meeting Mr. Hall resigned as Treasurer and Mr. Isaac N. Burch, a banker in Chicago, was elected to succeed him.

At the board meeting October 19, 1852, in compliance with provisions previously made, "a regular semi-annual dividend of 6%, out of the earnings of the road (Aurora Branch) for the six months ending October, instant," was declared and paid to the stockholders in the Aurora Branch Railroad.

Following the resignation of John L. Hanchette, February 23, 1852, who had been Chief Engineer of the Aurora Branch since 1850, Mr. George W. Waite was on that date appointed *engineer in charge*, and in that capacity had made preliminary surveys and final location of line Aurora to Mendota. At this meeting, the board by resolution appointed Mr. Waite, Chief Engineer of the company at a salary of $1500 per year. With the line located and construction under way, it was but natural that Mr. Waite be appointed Chief Engineer.

Under the control of the Forbes' interests, and with plans for developing a "comprehensive" system of railroads in Illinois, it was a natural sequence that the use of the Galena and Chicago Union Railroad from Turner Junction to Chicago would be abandoned for a line of its own from Aurora to Chicago. On October 19, 1852, the board "Resolved, that the president, J. W. Brooks, and John Van Nortwick, recently elected a director, be a committee to take charge of the consideration of a Chicago River Draw Bridge, connecting them with the Illinois Central Railroad, and to confer with that, or any other company, likely to be interested in such a bridge and to act for the company in the premises."

The Chicago River was then a barrier to direct interchange of the railroad traffic between the west and the east at Chicago. This, the Forbes' interest immediately realized, and proceeded to develop a plan for a railroad bridge across the river. Likewise it was desirable for the Chicago and Aurora to obtain better terminal facilities in Chicago than were afforded by the Galena and Chicago Union, which it

was then using, and at the same time a direct connection with the Michigan Central Railroad. Furthermore, it was deemed advisable to build its own line into Chicago, and abandon its tenancy of the Galena and Chicago Union.

The result of this move by the Chicago and Aurora Railroad was the formation of the St. Charles Airline, in which, not only this road but the Galena and Chicago Union from the west, as well as the Illinois Central and Michigan Central roads on the east side of the river became interested, and the ownership of the "Airline" has continued in these roads up to the present time.

With the construction of the Aurora-Mendota "extension" well underway, the time had come for developing of plans for the other Illinois roads, which were later to become a part of a single system extending from Chicago to Burlington and Quincy on the Mississippi River, as well as, Peoria on the Illinois River.

The Northern Cross Railroad, then building from Quincy to Galesburg was one of these lines, and on October 15, 1852, the board of the Chicago and Aurora Railroad "Resolved, that this company petition the Legislature of this State to allow them to subscribe to the stock of the Northern Cross Railroad Company, an amount not exceeding ten per cent upon their own capital stock, and that James F. Joy be and is hereby authorized to make such application in behalf of this company," similar action having been taken by the Central Military Tract Railroad.

On February 10, 1853, an act was passed authorizing both the Chicago and Aurora and the Central Military Tract Railroads to subscribe to the stock of the Northern Cross Railroad Company in amounts "not exceeding ten per cent of the capital stock of each of the said companies so subscribing." This marks the entry of the Forbes' interests in the Northern Cross Railroad, provided funds for its completion, and later for its absorption by the Burlington System.

At the Annual Stockholders Meeting, February 21, 1853, the first one held following the formation of the Chicago and Aurora Railroad Company, changes in the directorate occurred, by which the eastern financiers increased their representation to six members of a total of nine. At this time the stock ownership in the new company was over 75 per cent held by the eastern interests, giving complete control to them.

At the meeting of the new board, February 22, 1853, James F. Joy was elected President of the road, succeeding Stephen F. Gale, of Chicago. At this meeting, although the location of the line from Aurora to Mendota had been made, the question of the type of bridge across the Fox River and its location remained unsettled, largely because of conflict of interests on east and west sides of the river.

It having been declared a navigable stream, necessitated a bridge permit from the State, which was only granted after the company had agreed to "furnish ample facilities upon the west side of the river, at Aurora, by constructing side tracks, freight, car and passenger buildings of sufficient capacity to accomodate whatever amount of business may be offered." The company later complied with these provisions, even to the building of a replica of the east side passenger station.

At this meeting, February 22, 1853, the board also approved letting of contracts for the "extension." This marked the beginning of construction, and that the work had been expedited is attested by the fact that the 46.5 miles of the road was completed and placed in operation on October 20, 1853.

While, because of legislative enactment, the Chicago and Aurora Railroad had superceded the Aurora Branch Railroad on June 22, 1852, and under one management the two roads were operated separately in order that the earnings of the Aurora Branch Railroad, until the "extension" was completed and in operation, might be distributed among the stockholders of the road.

The executive committee, in compliance with agreement, ordered the payment of a dividend of 6 per cent on the capital stock of the Aurora Branch Railroad and on November 26, 1853, the board ratified that action. The exchange of this stock for new stock in Chicago and Aurora Railroad was not made until November 1, 1853.

The resolution further stated the basis of exchange of stock as follows: "The stockholders on surrendering their certificates of stock in the Chicago (Aurora) Branch Railroad Company, shall be entitled to full paid certificates of stock at the rate of one and two-thirds of a share of consolidated stock, and the stockholders in the *Extension* upon surrendering their certificates and receipts, shall be entitled to a full paid certificate for every share so surrendered upon which the full assessment of *sixty dollars* per share has been paid."

On this basis the stockholders in the two companies received comparable shares in the consolidated company, one set having paid the full one hundred dollars on their shares, while the other had only paid sixty dollars on their obligation to pay one hundred dollars. Prior to November 1853, the date of completion of the "extension," and during its construction, certain expenses of operation were incurred and a committee consisting of Messrs. Van Nortwick, Gale and Robbins was appointed by the board "for apportioning and adjusting to each company (The Branch and the Extension) their just proportion, and after ascertaining the entire balance of earnings to declare a dividend of same."

At a board meeting November 28, 1853, it was "Resolved, that thereafter and until otherwise ordered, dividends shall be declared on the first day of January and July of each year." This effected a change of the fiscal year, which had previously ended on April 30th.

At this meeting the form of new stock certificate, to be exchanged for Aurora Branch shares, and temporary shares and receipts of Chicago and Aurora, was approved. Also, Mr. Allen Robbins, of New York, was appointed Secretary of the Company to fill the vacancy caused by the resignation of Mr. P. A. Hall of Aurora, submitted at a previous session, November 26, 1853.

At an earlier meeting of the board, the Executive Committee consisting of Joy, Burch and Van Nortwick, was instructed to consider the need of additional funds. At the meeting November 28th, the President and Treasurer were "Authorized to execute and issue the bonds of this company, not exceeding five hundred thousand dollars" in order that

the line might be fully equipped and completed. They were also empowered "to negotiate for money and to sell bonds now authorized."

Later the authority for issuance and sale of these bonds was rescinded and on March 8, 1854, an issue of new stock authorized to the extent of 5408 shares, to be apportioned among the stockholders in proportion to their holdings.

While the "extension" had reached Mendota on October 20, 1853, as stated by Mr. W. W. Baldwin in his "History of the Building of the Burlington System," the "Aurora Guardian" of November 16, 1853, contained the following news item:

> "Another great day for the people of Aurora and West has just been celebrated on Saturday last (Nov. 12), with due ceremony the Chicago and Aurora was opened."

February 21, 1854, the second Annual Stockholders Meeting was held, at which the number of directors was reduced from eleven to nine, "that number being deemed most convenient for the transaction of business of the company."

Directors elected for the ensuing year were: James F. Joy, Detroit; John W. Brooks, Detroit; John Van Nortwick, Batavia, Ill.; Allen Robbins, New York; G. C. Davidson, Albany; Henry Ledyard, Detroit; Charles G. Hammond, Chicago; F. Skinner, Boston; and I. N. Burch, Chicago.

With a preponderance of stock ownership, and having a representation on the board of six out of nine members, the control of the road had completely passed from local to eastern domination, and marked the beginning of a realization of Mr. Forbes' plan for "a comprehensive scheme of railroads for the State of Illinois, and even of lines beyond the Mississippi."

For the remaining time, which was to end February 21, 1855, when the Chicago and Aurora ceased to exist, as a company, there was much to do. Depots and other service structures, the building of which follows track construction were all completed during the next few months, as was reported in the annual report to stockholders, covering the year ending December 31, 1854.

Motive power owned by the company had increased from two locomotives in 1852 to fifteen in 1854, as shown by "dates built" in Locomotive Roster of 1858, eleven of which were acquired in 1853.

In President James F. Joy's first semi-annual report to the stockholders in 1854 he said: "The motive power of the company consists of four first class passenger and eleven freight locomotives."

The necessity of company machine shops for maintenance of these locomotives, as well as, "the seventeen passenger train cars, and one hundred ninety freight cars" had become evident.

The facilities of the Galena and Chicago Union Railroad then used by the Chicago and Aurora Company had become entirely inadequate and on March 8, 1854, the board appointed a committee consisting of Messrs. Van Nortwick, Burch and W. S. Johnson, newly appointed superintendent, with authority to "locate the machine shops."

June 24, 1854, the committee reported that it had leased a parcel of ground adjacent to the Galena and Chicago Union Terminals in Chicago; had purchased a building thereon; and that a blacksmith shop was being erected; stating that "the shops soon would be in condition to meet the immediate needs of the company." These shops served the company until the Aurora Shops were completed in 1856.

The existence of the Chicago and Aurora Railroad Company was rapidly drawing to a close, which occurred on February 25, 1855, when by legislative act it became the Chicago, Burlington and Quincy Railroad Company. During the year 1854 this road's interest in other lines of road began to develop.

Legislative enactments authorized not only the Chicago and Aurora, but also the Central Military Tract Railroad, then nearing completion into Galesburg, to render assistance, financially or otherwise, to the Peoria and Oquawka Railroad, and also to the Northern Cross Railroad, so that these lines might be completed, and later become an integral part of this embryonic Burlington System.

At the Annual Stockholders Meeting February 21, 1855, it was "Resolved, that the Act of the Legislature of the State of Illinois, passed at its last session, changing the name of the Company from the Chicago and Aurora Railroad Company to that of *The Chicago, Burlington and Quincy Railroad Company* be and is hereby accepted by the company, and that the name of the company be henceforth The Chicago, Burlington and Quincy Railroad Company."

BUILDING OF THE AURORA-MENDOTA "EXTENSION"

After the construction of this line was authorized, the board of directors, on February 22, 1853, approved its final location. Between that date and October 20, 1853, the 45.6 miles of road were built and placed in operation.

Even though the terrain through which it was built was most favorable to cheap and speedy construction, the rapidity with which it was accomplished was remarkable, considering methods used and lack of improved mechanical devices then available.

The country was a level plain, traversed by few water courses, none of which presented serious problems in respect to drainage openings, except the crossing of the Fox River at Aurora.

There were no serious problems as to curvature or grades, borne out by the fact that the road, now double tracked, remains on the original location and with the grades practically unchanged. Under these conditions it is interesting to note the construction policy then adopted, particularly in respect to crossing of water courses.

Like all railroad building in those early years of the development of rail transportation systems of the United States, the financing of such projects, particularly in the unsettled and undeveloped Middle West was a problem and construction costs must be held as low as possible by adoption of every economic measure then available. The Engineer that could locate a line with a minimum amount of grading was considered

the most skillful. It was in those days that the term "grassroots line" came into common use. Neither curvature nor grades within certain limits were then considered objectionable; therefore lines were located to fit the contours of the country. In construction, mechanized equipment for grading was unknown.

In the 1850's the bowl shaped drag scraper had only recently been developed; the wheeled scraper was not perfected until some twenty years later; and the steam shovel, then called the steam excavator, although it was used for some purposes, had not yet been adapted to railroad grading.

The "Journal of the Franklin Institute" printed in 1843, states that the first steam excavator was developed in 1840. So, when the building of the "Extension" began the methods adopted were hand shovel and wheelbarrow, commonly known as "Station Work." The early types of drag scrapers, the one-horse dump cart; and the two-horse dump wagons, none of which were economical for long haul of excavated materials, such as is so successfully practiced today.

Another problem confronting the builders, was an entire lack of local permanent material such as; stone for building of culverts and bridge foundations, and no facilities for the transporting of same from distant quarries. This lack of local stone and of equipment for economic long haul of grading material necessitated the adoption of a grading program, so far as crossing of water courses was concerned, that resulted in the building of temporary structures, wood pile trestles, from timber, of which there was a liberal supply available. These trestles were built much longer than was required for waterway openings in order to minimize the haul of grading materials.

The line as then built, so far as crossing of waterways was concerned, was of temporary nature to be replaced with permanent openings before or by the time the timber structures had served their useful life, which the record shows to have been about 7 to 10 years, or some five years after the Chicago, Burlington and Quincy Railroad Company.

In the annual report to the stockholders for the year ending April 31, 1860, the President, Mr. James F. Joy, said: "Wood structures were generally used in the original construction of that part of the road west of the Fox River (Aurora) for passing over water courses in consequence of the absence of good building stone on that part of the line." "In most cases permanent stone culverts should be substituted for the present works, and considerable embankment required in forming the roadbed over them."

By 1860 many of the frame trestles had reached a condition requiring replacement in kind or with permanent stone structures, the material for which could then be hauled in by rail. Further Mr. Joy in the report for year 1860 said: "Owing to the rapid decay of these wooden structures, and the large amount of embankment required, it has been deemed proper to commence this work in order to its completion before the structures require renewal."

By this time the steam excavator had been adapted to grading of this nature and Mr. Joy further said: "This work is being done with a

steam excavator and a train of cars at the rate of eight hundred cubic yards per day at a cost of about eight cents per cubic yard." Elsewhere in that report there appears: "The charges to improvement (capital) account in the past year have been for . . . steam excavator and dumper cars, $7900.00." This was the first steam shovel acquired by the Burlington System the date being early in 1859.

In 1888, Mr. J. L. Ringwalt, editor of the "Railway World" issued a publication on "Development of Transportation in the United States," devoting a chapter to the Northwestern or Grange Roads. Commenting on the Burlington System he said: "It has been noted at all periods for *excellence of management and readiness to adopt improved mechanical devices.*" Thus, early in its existence the Burlington began to avail itself of "improved mechanical devices," when it acquired this "steam excavator."

At this early date the road was not only adopting proved mechanical devices, but was not averse to testing other new devices, even though failure might result. In the building of the Aurora-Mendota "extension" the question of type and design of rail was under consideration. All rail at that time was of iron, soft and subject to rapid deterioration, especially at the joints. At that time, 1852-3, a different type of rail section was being experimented with both in England and the United States with a view to obviating this type of rail deterioration.

And so at a board meeting of the Chicago and Aurora Railroad Company of July 6, 1852, the first one after its incorporation, a committee composed of Mr. Brooks and Mr. Davidson in collaboration with Mr. Erastus Corning of Albany, New York, who was largely interested in rolling mills was appointed "to negotiate for and purchase the necessary iron (rail) . . . of such form and pattern as they may determine."

The strap rail then laid two years previously on the Aurora Branch Railroad had already proved inadequate for the service required of it and the resolution indicates that its further use was not considered advisable. From existing records it was apparently decided against the use of the generally accepted "T" design of rail with its "butting" joints, adopting and placing orders in England for a "compound or continuous" rail. At the same time rail of similar design was being laid on a road in New York State, of which Mr. Corning was President.

This rail, in general design, was of "T" shape but in two parts, divided along its vertical axis, which when rivetted or bolted together, with joints staggered, was presumed to produce a continuous feature, that would obviate the trouble of battered joints.

The detail of this design is not known but in a paper, presented by G. P. Raidbraugh (Sparrows Point, U. S. A.) on May 3, 1917, at the Iron and Steel Institute, entitled "Origin and Development of the Railway Rail in England and America" (copy in Central Research Bureau, 1054 Frick Annex Building, Pittsburg, Pa.) there is shown a section of *compound rail* rolled in England in 1852. This is the year that the

Chicago and Aurora Railroad placed its order in England, and maybe this is the design purchased. At least it more nearly conforms to the design generally believed to be what the Chicago and Aurora purchased.

Continuous Compound Iron Rail
Rolled in England
in 1852

This rail was received from England and laid in 1853, and in the Annual Report to Stockholders for year ending April 30, 1855, the president, Mr. James F. Joy, stated: "The road of this Company is constructed in the most perfect manner, is well ballasted with gravel, is laid with a heavy *compound or continuous rail,* and in all its appurtenances is believed to be as perfect as any road in the West."

In the succeeding annual report for year ending April 30, 1856, Mr. Joy said: "As stated in the report of last year, the road is laid with the *compound or continuous rail,* weighing about 72 pounds to the yard." (This certainly was a big jump from the 19 pound strap rail laid two years before) "Apprehensions have existed relative to the durability of this rail, as compared with the usual "T" rail, and perhaps the test has gone far enough to prove which will last the longer. In this, as well as "T" rail, it seems that *durability depends more on the quality of the iron than upon the kind of rail."*

From this, it would seem that this first venture into the use of "improved mechanical devices" was not promising of the complete success expected of it.

In 1858, Mr. Zerah Colburn and Mr. Alexander Holly, eastern engineers and metallurgists, were sent to Europe, by the railroads of the United States, to study railroad practices with a view to their application to roads in the States. On their return they published "The Permanent Way and Coal Burning Locomotive Boilers of European Railways." In this book, a copy of which is in the archives of the Burlington, they made almost the identical statement made by Mr. Joy to the effect that "the durability of rails, under given service, is almost entirely a matter of *quality.*

In general, they found that, because of extraordinary demand, due to the tremendous programme of railroad building in the United States, and in order to accelerate deliveries, the quality of rails had been greatly lowered, due both to poorer metal and decreased amount of work in manufacture. At the end of their report, in a *general conclusion,* they said:

> "In quality, the most important consideration, European Railway Companies are stipulating for the *best material and most thorough manufacture,* thus returning to the excellent standard of earlier makes of rails—1835 to 1840."

The English Railroads, being "on the ground" were better able to control production both as to material and manufacture, a fact not so easily accomplished by American Railroads.

It was doubtless some of that *inferior production* that entered into the *compound rail* purchased by the Chicago and Aurora Railroad, of

which Mr. Joy made mention in his Annual Report to the Stockholders as of April 30, 1857, when he said:

> "Some miles of the English compound rail proved to be of soft iron and it has been deemed best to remove it from the main track . . . and which the greatly increased business of the company renders absolutely necessary."

Then began the gradual replacement of this *compound* rail with 56 and 60 pound "T" type rail. Apparently it was all out of track by 1860 for "the purchase of rivets for repairs to *compound* rail ceased in 1859," as indicated in annual report for that year.

While the statement of Mr. Joy that "some miles of the English compound rail proved to be of soft iron" is undoubtedly correct, there were certainly other complications encountered, because of the design of rail, that likewise necessitated its early removal.

The records show large purchases of "rivets for repairing compound rail" made each year up to 1859, and even after that date. The component parts of the rail being rivetted tightly together, left no provision for contraction and expansion, due to temperature changes. The result was shearing of rivets or throwing the track out of line.

Mr. Samuel Ballard, for many years an engineer on the Burlington, and who remembered seeing some of this rail in side track, once told me that one of the principal troubles with this rail, was lack of provision for expansion and contraction, and that the daily temperature changes caused track to shift out of line requiring excessive track maintenance, and creating dangerous operating conditions. Rails of this type have been developed and patented, but not one, so far, has proved a success, and the "T" section of rail, first developed by Mr. Robert L. Stevens in 1830, is still the standard type.

The test of a compound continuous rail which was laid from Aurora to Mendota, 45.6 miles, as well as on the 13 miles of the Aurora Branch, proved most expensive to the Company, and was practically a failure; but after-developments show that the Burlington was not discouraged by the results of one of its first adoptions of "improved mechanical devices."

BRIDGES—AURORA TO MENDOTA

As previously stated, other than the Fox River Bridge at Aurora, there were few crossings of water courses that involved bridges of any magnitude at the time of construction of the line, so far as provision for adequate waterways was concerned.

At a meeting of the board of the Chicago and Aurora Railroad, February 22, 1853, it was ordered "that the bridge across the Fox River, at Aurora, be of the *Howe Improved Truss* type."

The construction of a bridge of this type evidently involved delay in completion of the line, and the order was rescinded, for at a meeting of November 26, 1853, the board "Resolved, that the change of character of bridge across Fox River, from a Truss to a Pile Bridge, be, and is hereby approved." The passing of this resolution was for the purpose

of regularity of record of proceedings, for the pile bridge had already been built and the line opened for traffic, a month previous, on October 23, 1853.

In 1857 this pile bridge was destroyed by a spring flood, and evidently caused private property damages. In the annual report to stockholders, June 25, 1858, for the year ending April 30, 1858, the president stated:

> "The pile bridge over the Fox River, at Aurora, that was carried away by the spring flood of 1857, was replaced with a structure of like character, as this could be done in a short time, and avoid any long interruption of the business of the road."
>
> "For the safety of the road and to avoid damage to property above the bridge from pile obstruction, in case of another extreme flood, it has been deemed proper to substitute a truss bridge resting on stone piers, for the present structure. The work should be done this year."

However, the replacement with Truss Spans was not made until 1861, for in the annual report to stockholders June 20, 1862, for year ending April 30, 1862, the Chief Engineer, Max Hjortsberg, said:

> "A new bridge has been erected across the Fox River, at Aurora, consisting of three spans of one hundred and twenty-five feet each, built of timber, on the plan commonly known as the *Howe Truss*, and resting on piers of masonry."

The report shows the cost of this bridge to have been, Timber Bridge, $8,797.50, Masonry Piers, $4,961.52, total cost $13,759.02.

This bridge continued in service until 1883, when according to records in Bridge Department, the truss spans were replaced with deck plate girders, which are still in service, although the line was abandoned as main track in 1923, and is now used as a switching line to serve industries.

Although Bessemer Steel had been introduced and manufactured in the United States in 1867, the use of "soft" iron in bridge construction continued on the Burlington until the early 1890's, because of the brittle character of steel produced at that time. Many of these iron trusses and girder spans are still in service on the system, on less important lines, to which they were transferred.

In original construction only pile trestle bridges were built, and it was not until after the organization of the Chicago, Burlington & Quincy *Rail Road* Company in July 1856, that replacements became necessary.

A later chapter, concerning the history of that road, will contain a more detailed story of these as well as those bridges between Mendota and Galesburg, built at the same time.

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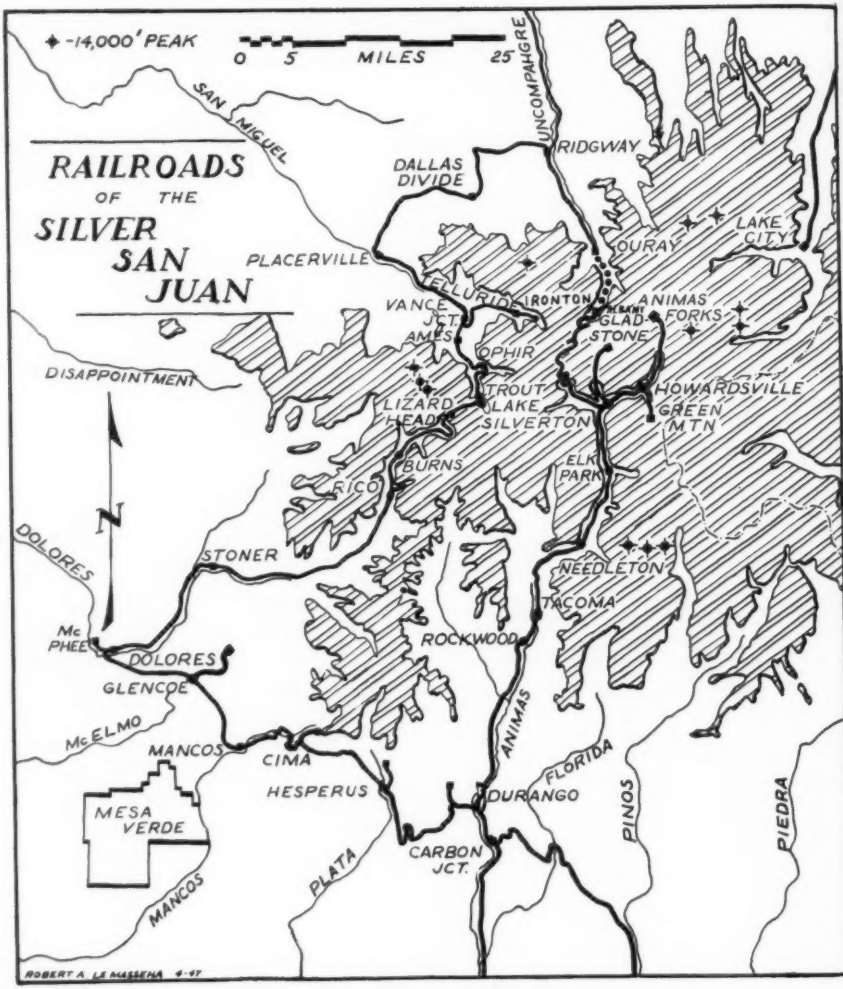


RGS—Durango to Ridgway with branches from Vance Jct.
D&RGW—Durango southward, eastward and northward to Silverton, Ouray northwards to Montrose.
SN; SG&N and Silverton RRs.—extending out of Silverton to Animas Forks, Gladstone and Albany.
Proposed electric railway—Ironton to Ouray.
(Shaded Areas are Above 10,000 Feet from Sea Level)

Rails Among Peaks

DENVER AND RIO GRANDE

By Josie Moore Crum

In the summer of 1870 the Denver Pacific came into Denver from the north and the Kansas Pacific from the east. General William J. Palmer was constructor for the K. P. and, as such, had made surveys thru Colorado and New Mexico looking for a route to California. That fall he organized the Denver and Rio Grande to build railroads thru Colo. and into Utah and, as the name indicates, down the Rio Grande River to El Paso and Mexico City. The cost, which was to be staggering, would have to be met by private capital tho' the government granted the railroad a right-of-way 200 feet wide thru public domain. Narrow gauge, 3 feet wide, was decided on as a matter of economy and practicability.

Some writer of the time, if he could have followed the surveying parties around or could have looked on at the jobs of construction, would have had a wonderful story to tell.

The western two-thirds of Colorado is a maze of mountain ranges. During the period of projecting railroads, surveys were made up every canon and over every pass, searching out practicable routes. It is estimated that at one time 500 men were in the D. & R. G. engineering corps, distributed around in groups of 16 to 18. As most parties pushed far into wild and unsettled territory they had to take with them on pack animals supplies enough for several months. There was the danger of falls over precipices, the likliehood of being caught in a rockslide, by a sudden flood or by an early snow that could cause them to starve or freeze.

Grading was the difficult part of construction work. How to get up and down mountains, thru and across canons and over rivers, taxed the ingenuity of the ablest. There was the problem of transporting from some distant point the enormous amount of equipment needed for grading and the material for track, buildings, bridges etc. Labor was a difficulty. Men were imported from Denver and Pueblo at the rate of 1000 per month from Nov. 1879 to March 1881; 200 were brought from Canada, 250 from St. Louis, 300 from Chicago and 1000 from Kansas. The company advanced their fares but, when they arrived, a great part of them promptly deserted either to prospect or for the higher wages in the mines. About $30,000 was lost on their transportation.

The railroad started south from Denver in March 1871. It got to Pueblo the next year and went west by degrees, to Florence, to Canon City and finally to Salida in 1880. From there a section, that year, went north to Leadville and another started west reaching Grand Junction in 1882. At the same time the Denver and Rio Grande Western, owned by the same men, was abuilding from Ogden, Utah, and joined the D. & R. G. at the state border in 1883, making a thru line from Denver, via

Note—This article specifically deals with the D. & R. G. in and around the San Juan Mountains and uses only enough about the railroad in general to furnish a background.

Gunnison, to Ogden, 772 miles. Meanwhile track had gone south from Pueblo to Trinidad in 1876 and, at Cuchara Junction, branched off toward Alamosa, reaching there in 1878 and Durango in 1881. Many branches had been added all over the system but the ones of significance to the San Juan Country were Silverton in 1882, Ouray in 1887 and Lake City in '82 to '89. In 1890 the Salida-Alamosa connection was made. Tho' the company lost the Raton Pass to the Santa Fe Railroad it had the right to go down the Rio Grande River to El Paso but for several reasons never got around to doing it.

John Houk, on April 4, 1884, arrived in the Gunnison area to serve as operator and timekeeper on a work train. They had a cook car and 6 or 8 bunk cars, one of which was his office where he kept his telegraph instrument. They did such odd jobs as repair track and roadbed in the Black Canon, open the snow blockaded line to Crested Butte and the Anthracite coal mine, dig three engines and a snow plow out of drifts at Cerro Summit, repair washouts between Whitewater and Grand Junction and load ties on the Lake City Branch that were to go to the Midland Railroad then abuilding from Grand Junction to Glenwood Springs. At that time over the whole system most minor officials, train and engine crews and section bosses and men were Irish (so was Mr. Houk). They had 25 or 30 Irish section hands on the outfit and dubbed them "Chaws" because they were always chewing the rag about something. Sometime thereafter about the same number of Italians came and replaced the Irish. Mr. Houk remembers a couple of incidents of the time.

"Something funny happened on the work train one day. The cook had placed a pot of beans on the stove to stew and a bar of Denver Best soap on the warming oven door. The soap softened and dripped down into the beans and all over the stove. The nigger flunky, laughing like he would split, came into my office to tell me about it. He'd stop and then if anyone said "beans" he'd start in again. He kept it up until the cook threatened to fire him. We had no beans for dinner and the range was a mess.

"A year or two after that I was operator at Bridgeport. McMann's "gigantic circus" whose main attraction was the "tallest elephant in captivity", was showing in Grand Junction. I got permission to go on the freight train to the show and come back with the circus outfit. They had about 8 or 10 narrow gauge railway cars and were moving to Delta and Montrose. The new tunnel had just been built and building materials were laying around. The conductor had orders to stop at the tunnel to see if it would clear the elephant that was loaded on a flat car. The beast was just six inches too tall. The keeper could not make him lay down or kneel down but had no trouble unloading him, leading him thru the tunnel and loading him on the other side."

Gold and silver ores were discovered in the San Juan Mountains and a miner's rush to the country began in 1873. As was to be expected General Palmer planned a railroad to the place. Three surveys were made: one up the South Fork and across South Fork Pass to the San Juan River; one to the head of the Rio Grande River and across the mountains above Cunningham Pass to the Animas River; and one west

from the Conejos River across Cumbres Pass. This last was the one selected.

The railroad was finished to Antonito in 1877 and contracts were let in November for building to the Animas River, about 171 miles. The difficult part was from Antonito to Chama over the Continental Divide, only 64 miles, but a whole year was used in completing it. Construction was comparatively easy from Chama to Durango, 107 miles, where a train arrived July 27, 1881.

At the same time Thomas Wigglesworth was surveying and grading northward from Durango up to the Animas River, supplies being brought to him from Del Norte across Cunningham Pass, thru Silverton and down the river. Track laying started from Durango October 3, 1881, reached Rockwood, 19 miles, December 11, where work stopped for the winter, tho' the roadbed had been completed to Cascade Park except for a bridge across the Animas. Work started again in the spring. Construction thru some parts, especially just north of Rockwood where the roadbed had to be blasted out of granite rock, was costly and difficult but the railroad reached Silverton, 45 miles from Durango, July 8, 1882. The first steel rails, 58 tons of them, made by the Colorado Coal and Iron Company at Pueblo, were used in this piece of track. Up until this time rails had been made of iron. The 58 tons would have meant about 11 miles of track. Pullmans were run from Denver to Silverton for several months.

It will be noticed by the map how the branches to Telluride, Lake City and Ouray and the three Silverton railroads at the end of the Silverton Branch,* reach into the San Juan Mountains like fingers. Tho it was often talked about and even planned no one ever got the courage to try to link those points. Roads or trails did connect all of them.

1881 was a year of special significance: it was the year of the greatest mileage construction; the first third-railing, Denver to Pueblo, was done; the first standard gauge equipment was bought; and at the end of the year Palmer resigned.

Snow is the thing that causes the greatest expense to the railroad companies and is the source of the greatest worry and danger to transportation men. Deep canons with high mountains on the sides are the ideal spots for snowslides. The piece of railroad from Needleton to Silverton, 14 miles, is plagued with more and deeper slides than any other in the San Juan Mountains or probably any place else. The Branch was only 1½ years old when the famous "Big Snow" of 1884, the worst in the memory of either the Indians or the white men, descended upon the country. Mr. Brice Patterson † told of the time they had.

Snow started February 2 and never stopped for 20 days. A train came into Silverton on the 3rd and that was the last one till April 17. Snow was 12 feet deep around Chattanooga where Mr. Patterson was

* The Rio Grande Southern to Telluride and the three railroads north from Silverton have been treated in separate articles.

† Second cousin of the author.

freighting ore and he had to dig a tunnel to get to the barn to feed his stock. By March 1 Silverton was out of food—nothing much but flour was left. Feed for animals was not to be had. The telegraph line was down so men went from town on skis and fixed it up by fastening the wire to forked sticks stuck in the snow. Mail was snowshoed into Silverton from Ouray. At the same time the D. & R. G. was blockaded over Cumbres and Durango had to get its mail via Santa Fe.

At that time, outside of dynamite, pick and shovel was the only snow slide bucking equipment. Four or five hundred men working from Durango got the line open as far as Needleton. Three car loads of food for humans and two for stock were brought there. Men around Silverton under Mr. Patterson organized a pack train of 52 animals. They started at 6 A. M. March 6, having had nothing but bread—not even any coffee—for breakfast. That was also all except for a little whiskey, they had for their lunch that day. After 18 hours of floundering around in snow 8 to 15 feet deep and climbing over slides they arrived at Needleton just after midnight. Awaiting them in the warm section house kitchen was food from heaven—a stack of steaks 3 feet high. A feast was no name for it! The next morning they loaded the pack animals—five of them with beef and the rest with other groceries and feed for stock. When they arrived in Silverton the whole town was out to meet them. Altogether about a dozen trips were made before trains got thru.

After Cole Lydon, the superintendent, and his men finished cutting thru the big Snowden slide four miles south of Silverton, Mr. Patterson and his helper, Charlie Hodges, measured it by dropping a 100 foot tape line from the top. They found it to be 84 feet deep. (See picture).

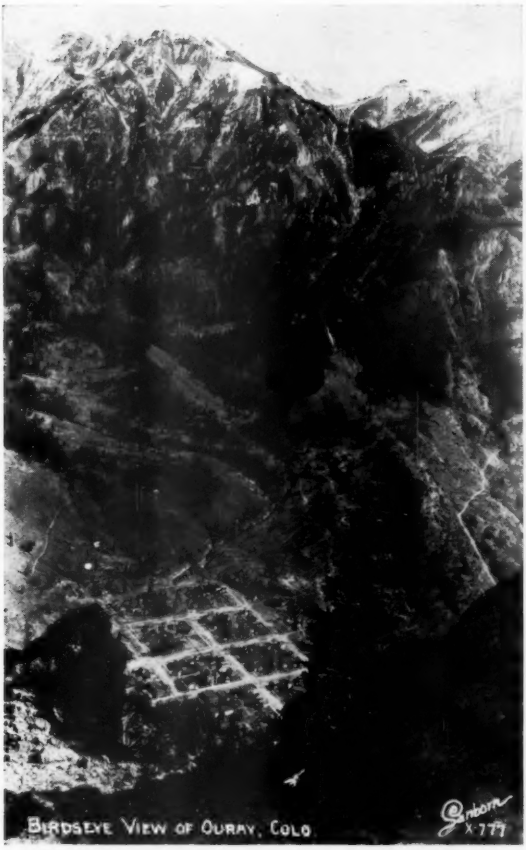
Mr. James Pheney tells how they tried to combat this largest and most troublesome slide. Soon after the Big Snow a shed was built there. It was made of big logs stuck into the hill and was 75 feet high and 600 feet long, which was not long enough as the slide often ran 100 feet beyond each end. The Shed Slide, which then became its name, begins two miles back in the Needle Mountains, hits several basins and each time leaps into the air and over the next ridge. It finally comes down a narrow gulch on the east side, passes 100 feet above the shed and over the river, runs up the mountain on the west side and lunges back covering everything and blocking the entrances to the shed.

It dams the river which backs up and runs thru the shed making ice that has to be dynamited. A tremendous slide came there in 1892. While 40 or 50 men were working it away they saw another start. Everybody ran, but two Mexicans were caught. One was found when they were digging out the main line and the other not until the next summer.

The slide covered shed is the snow tunnel so often mentioned and seen in pictures. The outside became very dirty as the snow melted away and the grime stayed behind. The inside would thaw from the heat of the engines, then freeze, making a hard glazed black surface. Some years the slide would not all be melted until late in the summer. Part of the shed burned and part of it rotted away. Four or five years ago, after it had stood nearly 60 years, the last of it, because it had become unsafe, was burned down.

Courtesy of J. C. Thode

Engine 227 emerging from snow tunnel 4 miles south of Silverton. See story.



A trail follows along the top of the mountains in the background. The author has ridden it and looked down into Ouray.

The larger slides take everything in their paths, rocks weighing several tons and large trees as if they were no more than toothpicks. They make a tremendous roar and concussion wrecks everything in the vicinity, knocking down buildings, wrecking bridges and uprooting trees. Humans who are near one will be deaf for several hours afterward. Mule skinners around Silverton say several small slides or one large one will cause mules to become permanently deaf.

Men who are carried down by one will be badly crushed and will be found frozen in any kind of a contorted shape. A bad slide came at the shed in 1891. Four men were working at the entrance when they saw another start and ran for the inside. The snow surged in and plastered them against the shed wall. The bodies were found in an upright position. John Hughes, whose father was section foreman at Silverton, was a boy but he remembers seeing the bodies of the four men standing against the side of the depot. Many mills and boarding houses with all their occupants, sometimes 20 or 25 persons, have been carried away. Once, near the Camp Bird mine, a long string of six-horse ore teams were taken down into the gulch. Sometimes a few persons by some miracle escape but others will be buried under tons of slide and will not be found until the snow melts. Deaths by freezing were many so bodies stood against a mortuary wall were not uncommon even in Durango.

The D. & R. G. made many surveys locally, anticipating future railroads. Two are of particular interest: one by Mr. Wigglesworth in 1881 from Durango via the Hermosa River to Rico, down the Dolores River, across Cima and back to Durango, the latter part of which was used by the Rio Grande Southern nine years later; and another by Mr. Wigglesworth in 1882, from Silverton to Red Mountain and Ironton Park, which was used six years later for the Silverton Railroad.

To the north the railroad across the Continental Divide at Marshall Pass is the most convoluted, contorted thing imaginable; farther south that across the Divide at Cumbres Pass is more convoluted and contorted than the other; connecting those two pieces, from Mears Junction to Antonito, most of the tract, 103 miles, is straight, 53 miles of it, from Villa Grove to Alamosa, being the ninth longest perfectly straight piece in the United States. The railroad from Antonito to Chama crosses the Colorado-New Mexico line 13 times and once more after that back into Colorado. (See picture.)

The first third rail was laid from Denver to Pueblo in 1881 which called for standard gauge engines and cars. For many years either gauge engine was to be seen pulling either or both gauge cars which must have looked decidedly queer as the track of one is 4 feet, 8½ inches wide while the other is three feet and engines and cars are of a comparative size. A little standard gauging was done in the late 1880's, but 1890 was the year the company went at it in earnest and by November had all standard gauge track from Denver, via Leadville and Glenwood Springs, to Ogden, 778 miles; also south to Trinidad. 1890 was a significant year in that narrow gauge reached its peak in mileage and in that the greatest transformation to standard gauge was made. In 1899 standard gauge went west from Cuchara Junction to Alamosa and to Creede

the next year. The only piece of third rail now left lays between Hooper (north of Alamosa) and Antonito, 49 miles. Not much changing or adding was done in the years after the panic but in the early 1900s other branches as Craig and Cripple Creek were added.

The Lake City Branch, part of which was constructed in 1882 and the rest in 1889, left the D. & R. G. main line at Sapinero and followed up the Lake Fork (a river) to Lake City, a distance of 36.56 miles. A daily passenger and freight trains were scheduled. The branch was turned over to an independent company called the San Cristobal Railway which during the middle and late thirties operated a bus or galloping goose such as is still in use on the Rio Grande Southern and was built in its shops. The line has now been abandoned for several years.

The Ouray Branch, constructed in 1887, runs from Montrose up to the Uncompahgre River to Ouray, a distance of 36.35 miles. From one to several freights and a passenger train ran daily over the line. Excursions to Ouray for celebrations, especially the Fourth of July were big affairs. A train of three sections of six or seven coaches from the lower country as Grand Junction and intermediate points and another of two sections from Rico and Telluride way were not uncommon. During the depression years passenger trains were abandoned entirely and now only a tri-weekly freight operates over this branch.

The Pagosa Springs Branch was constructed by the Pagosa Lumber Co. which was Sullenberger, Newton and Thatcher, to haul logs and lumber from Pagosa Springs to the D. & R. G. at Pagosa Junction. They started laying the 31 miles of track in September of 1899 and finished the following year. A mixed train was run. In the latter part of 1904 the railroad was turned over to the D. & R. G. which operated it until it was abandoned in 1935. C. G. Murray who, at the age of 16, acted as water boy for the construction gang was the conductor of the crew that tore up the rails.

The branch from Durango to Farmington, New Mexico, 44.7 miles, was the only piece of standard gauge ever to be laid in the San Juan Basin. It has quite a story.

Edward Harriman, president of the Southern Pacific, fathered the project of a railroad, to be called the Arizona and Colorado, into Durango from the south. Its purpose was to get coal from Union Pacific mines around Hesperus to take into Old Mexico. J. W. Reagan was the surveyor. His report shows that he investigated the San Juan most thoroly—its topography, area, climate, watersheds, soil, coal beds, minerals, timber, stock range, farming possibilities etc.

Survey lines left the Santa Fe tracks west of Gallup, ran to Farmington, then into Colorado both by the way of the La Plata River to Hesperus and the Animas to Durango with connecting links between those two points along Lightner Creek and thru Ridges Basin. As the country was open, curves were to be wide and grades easy. Water supplies were located and plans made for a high road bed out of the reach of floods, strong and high trestles, stations, roundhouses, turntables, water tanks, fuel stations and telegraph lines. They were finished in March of 1906.

Meanwhile, in 1905, the D. & R. G. built a standard gauge from Durango to Farmington that was deliberately made to cross and recross by three or four feet the A. & C. survey line, at some strategic point where a trestle or underpass is intended. It meant to seize the productive part of the territory for itself, keep the A. & C. out of Durango, yet connect with it at Farmington. S. P. brought suit against the D. & R. G. which, in 1908 or '09, was decided in its favor providing it built a railroad in a reasonable length of time. Before it got started to work Harriman died and that put an end to the A. & C.

At the time of the survey the U. P. owned 12 to 14,000 acres of coal land around Hesperus. Mr. W. I. Gifford, the superintendent, bought enough more to make 22,000 acres. Later it was sold to the S. P. which disposed of it in several blocks the last in 1942.

This was the time the D. & R. G. swallowed something and has had indigestion ever since. First it was out the expense of the court battle besides getting its dignity hurt by losing; for 18 years it had all the trouble of operating this one piece of standard gauge where everything else was narrow; in 1923 it had the expense of changing to narrow gauge; and lastly, especially since it has shown signs of deserting the San Juan itself, it has had to take all the jeers and insults local inhabitants could invent.

Durango has the distinction of being the only town in the United States having four pieces of narrow gauge, converging upon it: the D. & R. G. W. main line, the Silverton Branch, the Farmington Branch and the Rio Grande Southern.

Any deep canon along a river that drains so much and such high precipitation areas as does the Animas must be the scene of many disastrous floods. They are expected every spring when the snow melts but a flash flood, due to heavy rain in some particular area, can come down any gulch any time. Charles Knight tells of one that gathered up everything in its path—trees, mud and rocks up to 10 or 12 tons, came down a gulch a couple of miles north of Elk Park in August of 1909, covered up 150 feet of track and dammed the river. The river then backed up to make a lake that covered 1000 feet of track 18 to 20 feet deep.

A repair crew drained off some of the water and built a 500 foot fill across the remainder of the lake. A 5% grade had to be made at the south end to raise onto the fill and trains had to double over it. In about 45 days it was finished and a freight train and a passenger made the trip to Silverton and back in one day.

It had rained all that day but in the evening began to pour and the river raised 12 feet. Knight was with the work train that had been constructing the fill and was setting on a spur nearby. They heard a rumble like thunder and a flood came that rolled away the fill and the rockslide clearing the railroad down to its original roadbed. The track, tho', over the fill, was so well anchored at each end that it was left hanging. Several miles of track below there were washed out.

The six men of the crew the next day walked the whole 34 miles to Durango. The company put a lot of men to work and had the line ready for operation in about a month.

In a little over two years, on October 5, 1911, occurred the worst washouts of any remembered by white men. Rain had poured for days until every creek was a torrent. The Silverton Branch suffered the worst damage. Nearly all bridges were washed away or undermined and about ten or twelve miles of track between Tacoma and Silverton were destroyed. Much D. & R. G. track on the Pine and San Juan Rivers to the east of Durango was gone as was the case on the R. G. S. to the west. The D. & R. G. bridge in the north part of Durango was threatened so an R. G. S. crew that had just come into town with cars of coal was ordered to place four of them on the bridge supposedly to hold it down. It didn't do any good as the water took out the abutments and bridge and coal collapsed into the river. The famous old Baker's wagon road bridge, 16 miles north of Durango, the first one in southwestern Colorado, built in 1861 by Captain Baker and the first, tho' temporary, settlers of the area, was swept away.

Durango was six weeks without postal service from the east until a mule pack train was organized. In fact during that time the P. O. Department almost forgot the town except with a little dribble of mail over the R. G. S.

Repair work had begun in all directions soon after the flood. One day as a work train engine was backing out from Durango to the east it overturned near Oxford killing Engineer John McCabe. This part was open in about two months. Reconstruction on the Silverton Branch was carried on from both ends. Otto Mears had been engaged to take charge of the work and he hired everybody in the country that wanted a job. Crews and equipment of the Silverton railroads worked from the north end. Trains went to Joker Tunnel, 16 miles north from Silverton, and picked up rails that had been brought there by freight teams from Ouray. The rails were of the 30 lb. weight as nearly twice as many of those could be handled as of the 52 lb. Later they were replaced with the heavier weight. The line was open in about 60 days. A car of caskets and one of beer were the first two to arrive in Silverton.

The D. & R. G. in Colorado and the D. & R. G. in Utah, tho' built and owned by the same men, were separate organizations until they were merged in 1908 under the name of the D. & R. G. which in 1920, by a reorganization, became the D. & R. G. W.

The railroad was in several temporary receiverships during its war in the seventies with the Santa Fe over the right-of-way thru the Royal Gorge to Leadville, in three others of two or three years duration and one long one from 1935 to 1947. It has always been expensive to maintain because of the rough territory traversed and because of snow, floods etc. Even the prosperous years of the twenties saw the abandonment of many branches but the depression years of the thirties brought on a deluge. Now not many are left. Some improvements were made and the D. & R. G. W., by its use of the 6-mile Moffat Tunnel thru the Continental Divide and some Denver and Salt Lake track, now has a direct line from Denver to Ogden of 607 miles. In 1890 the Company had 1635 miles of narrow gauge railroad over Colorado and Utah; now about 580 miles, just that in southwestern Colo., remain even counting the third rail track between Hooper and Antonito.

Courtesy of Mrs. Louis Puls.

The Snowden slide of 1884, 4 miles below Silverton was 84 feet deep and was all shoveled out by hand. See story. Later a snow shed was built at the spot and the slide became known as the Shed Slide.

Courtesy of Monte G. Ballough

Engines 263 and 270 rolled for 200 feet down the hill, one into the Animas River. A fireman was killed. See story.

Snow trouble persisted thruout the years. Railroad men accused 1914 of being very bad but along came 1916 and eclipsed anything the country had had since the Big Snow of 1884. It, 1916, still stands in second place. Snow had all the railroads in the country blocked. The D. & R. G. had to borrow the R. G. S. rotary, which is a housed over locomotive with a large revolving-bladed wheel that cuts snow and throws it away from the track, to clear the Durango yards, the first and only time such a thing ever happened. Then it used it with its own to open up Cumbres Pass.

Jack Dieckman tells of a trip to Silverton, before the real trouble began, of many mishaps and hardships. An outfit of three engines, snowplow, drag flanger (a flat car looking thing that has machinery to clear ice and snow from the rail and follows behind the head engine), cook car, commissary car, cars of coal, two passenger cars and about 80 Mexican snow shovelers left Durango February 10. Everybody took his own blankets, also a mattress, if he was smart; otherwise he slept on bare boards. They ran into three or four feet of new snow near Cascade tank. Matt Pheney, the trainmaster, walked ahead to see what kind of slides were down and stumbled on a big rock in the track. On digging down he found a lot more rock and that one whole rail and the half of another had been pushed out. It was a great piece of luck for if the train had hit that place at its speed of 15 to 18 miles per hour the three engines and the flanger would have gone into the river. The track had to be repaired.

Small slides were running in places they never had come before, but the train, working along with the engines and the shovelers, managed to get thru and arrived March 2 at the place where the Silverton water tank should have been but wasn't—only some supports were left standing. A slide had come down the mountain on the west side, crossed the river to the east side, hit the tank high up and flattened it against the mountain.

The next morning was clear but before they got into Silverton snow started to fall. Pheney ordered them to "get the hell out of there" as fast as they could but the switches had to be shoveled before the engines could be turned. The train took on about 40 passengers and left at 5 P. M. It was all Dieckman, fireman on the head engine, could do to keep up steam pressure; then he'd have to get out and wipe off the headlight as the snow was coming harder and harder. They came to some deep cuts filled with snow, took a run and stuck. Johnson, the engineer, whistled for the snow shovelers who came running over the car tops. One fellow saw a slide coming and threw his arms around a stove pipe but he and the pipe were swept over the side. The head engine and flanger were seesawing when the flanger derailed. That had to be put back on.

It was then 8 P. M. Pheney told them to take a run and if they got thru to move the engines down to a spot that would be safe from slides and stay there, which they finally managed to do. They waited an hour when they saw a light coming. It was the shovelers who had to break a trail. Following were the passengers, several of whom were women and

children. All of the cars had to be left where they sat. Everybody piled on the engine and flanger wherever, they could stick. When they got to Tacoma some box cars were picked up to which the riders were transferred. They started again, got to the cut north of Rockwood which was full of snow, took a run and stuck. The head engine cut loose and seesawed making a place big enough for the shovelers to get in to work. It was then 9 o'clock and still snowing. They'd make a run, gain a few feet and get stuck and kept that up until 2 A. M. As everybody had been working his hardest to get thru they had not stopped to eat—had had nothing since noon—and now the cook car was left behind. The engines were getting short of coal and water and the shovelers were exhausted so they gave up.

The shovelers went over to the section bunk house at Rockwood, built a good fire and when Dieckman came in were asleep, laying all over the floor in pools of water that melted out of their clothes. Two families at Rockwood took the passengers in and gave them something to eat. Crews and shovelers got nothing unless one would consider the four potatoes Dieckman swiped from Tommy, the Jap section foreman. He and Johnson went back to the engine, placed the potatoes against a steam pipe where they cooked enough that they could be eaten. That was their supper and breakfast. The two then spent a couple of hours shoveling snow into the engine to keep it alive. Dawn came bright and clear and about 10 o'clock the R. G. S.'s go-devil (plow-flanger) got to them and on March 4th they were on their way home "considerably the worse for wear but happy that another battle was won."

But the big battle wasn't won because the line was immediately blocked again and for about two months. This year, besides being so bad for snow, is remembered for another reason. The Parcel Post law had, a few years before, been enacted so a ton of hay was sent to Silverton by mail. The same thing was done several times later and more will be told about it farther on.

In 1928 occurred another bad blockade, one of the very worst, perhaps could be called third if they can be rated, and the line to Silverton was closed for over two months. This year was odd in that a passenger train of which James Pheney was conductor, was five days in coming from Farmington, the branch that goes into the lower country and is supposed to be out of the bad snow area.

Late January of 1932 brought deep snow to the San Juan and by February 5 the railroad to Silverton was closed. Time went on and the D. & R. G. W. made no move to open it up. Silverton got on the prod and appealed to the Public Utilities Commission. Meanwhile more snow had been falling and slides running. Mr. F. E. Peake tells what was done about it.

The P. U. C. sent a special engineer, by the name of Rankin, to inspect the blockaded area and make recommendations about opening it up. The railroad company ordered Mr. Peake, the trainmaster, to accompany him. An engine and caboose took them as far as Needleton from where they started about noon to walk the 14 miles to Silverton. As it was a nice warm day the snow was thawing and they'd sink in ankle to hip

deep, which made tough walking and slow progress. Then they'd have to stop and measure each slide, note its condition—whether it carried ice, rock and timber—and estimate the cost of removal.

They arrived at Elk Park about 5:30 and knew they could not make the rest of it that night so plodded thru snow five or six feet deep over to the abandoned section house. They managed to find some wood and started to build a fire but there was no stove pipe. Mr. Peake knocked a hole in the ceiling and broke out an upstairs window to make a draft. They put in a terrible night as it was 18 or 20 degrees below zero and the fire had to be fed constantly. There was no place to lie down except on some bare boards. Mr. Rankin was afraid they were going to freeze to death but Mr. Peake told him he'd burn the building down if necessary. Mr. Rankin did suffer frosted feet.

The next morning after some coffee and lunch, which they had been carrying in a knapsack, they started again and got along fine as long as the snow was crusted but when it began to melt were very much delayed and were five hours in making the six miles to Silverton. Mr. Rankin had to go to the hospital to have his feet treated. A pack outfit had for some time been carrying supplies from Needleton to Silverton so the next day Mr. Peake came back afoot with a bunch pulling a toboggan and a few days later Mr. Rankin rode a mule down. Mr. Peake received instructions from the company to line up a train, which he did—one consisting of two engines, wedge plow, flanger, ditcher which had then become a part of snow-bucking equipment, 12 outfit cars, commissary car, a coach in which he kept his telegraph instrument, two cars of coal, one car of black powder and an extra gang of 23 men. As this was during the depression plenty of men were obtainable. They started out April 4, got to Needleton and started to work that afternoon.

It was to be a long siege of 32 days before they reached Silverton. They bucked many huge slides, four, five or six hundred feet long and perhaps 40 feet deep; also hundreds of smaller ones of every conceivable size. The bad ones were those that carried ice, rock and timber and were so compact they had to be dynamited. After one was broken up the ditcher would remove the debris. If snow was more than 16 or 18 feet deep it had to be shoveled out. If it was over 25 feet deep they made benches and passed it up by hand to the top, thus handling it several times. The shed was full of ice and every bit of it had to be dynamited and picked and shoveled. Enroute the ditcher broke down several times and had to be repaired but they reached Silverton May 5.

That day a double header was run out of Durango taking supplies to Silverton and carrying ore back. During the three months of no trains the mining companies had filled every car of any kind that was in the yards, with ore, pulling them up to the loading ramps with big trucks.

The extra gang men had received $2 for a day of 10 hours and $1 was deducted for board. One man displayed the three $10 bills he had drawn for 30 days of labor, the hardest of pick and shovel work, and was glad to have gotten that.

That year the snow was very bad in Durango and the railroad yards were covered several feet deep. The depot is a very tall two story affair. Many exaggerated stories have been told about the Big Snow of 1884. Peake heard two of the 1932 snow shovelers make some remarks:

First man—"I wish it would snow so deep it would cover up that depot."

Second man—"Now, why in the devil would you wish such a thing as that?"

First man—"Well, it would shut up those damn '84 boys, anyway."

Following is an extract from an article appearing in a Durango Herald Democrat of the spring of 1932:

"The Durango firm (the Farmer's Supply Co.) was unable to ship the hay * by freight because the railroad stops at Needleton. It was decided to throw the responsibility of its delivery on Uncle Sam. The hay was pressed into bundles to conform with the maximum size and weight for parcel post and offered for mailing to the postmaster at Durango. The postage amounted to $14. But when the hay reached the end of the railroad, it had to be transported to Silverton by pack mule at a cost of five cents a pound. Thus the P. O. lost $86 on the transaction but the cows in Silverton will munch hay for a few days and the children will have fresh milk again."

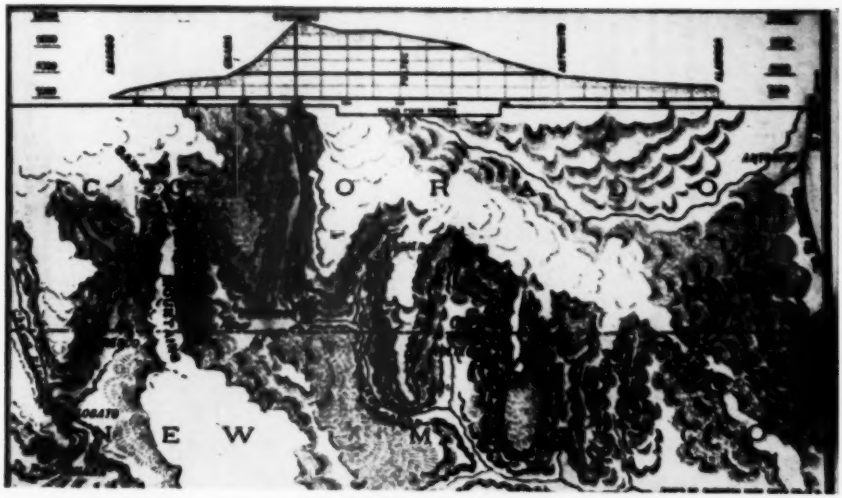
The Office of Defense Transportation, in late 1942, requisitioned certain narrow gauge equipment: seven of the K27 and K28 engines, a rotary snowplow and a ditcher, which were to be sent to Alaska. Mr. Robert Le Massena, after corresponding with the War Surplus Board, the White Pass and Yukon Railway and M. Block and Co., found that the engines, with two from the Colorado and Southern and three from the Silverton Northern, were sent to Alaska but after Diesel power was received there, were all, except for S. N. engine 34, returned to Seattle. Block & Co. of Seattle state they bought them for junk.

The D. & R. G. W. has for a number of years paralleled its rail service with passenger and motor truck lines known as The Rio Grande Motorway, Inc. which, of course, took a great part of the business away from the railroad. As part of its policy of abandoning the narrow gauge the D. & R. G. discouraged travel by rail into the San Juan. Although passenger trains were shown on timetables, clerks in Denver told travelers that none ran into Durango and that they would have to go by bus. A clerk would even argue with a local resident that there were no trains into the Basin. As a great surprise to the community the D. & R. G. W., in February 1948, sold all of its passenger motor business and equipment to The Continental Trailways Co. It retains its motor freight business.

Considering the dangers of mountain railroading the Silverton Branch has been singularly free from fatal accidents, only four among transportation men in its 66 years of existence.

The first occurred January 4, 1897, eight miles south of Silverton when an engine struck a snowslide that was full of big rocks, overturned

* A ton had been ordered.



The alignment of the D. & R. G. railroad across Cumbres Pass. Note 13 crossings of the Colo.-N. M. line. Later crosses once more.

Courtesy of Mrs. Louis Puls.

A rockslide on the Silverton Branch in Aug. of 1909. Dammed the river making a lake on the north side. See story.

Courtesy of Lad G. Arend

Depot at Ouray. Burned down in spring of 1948.

and crushed the engineer, William S. (Red) Young. The snowslide that comes at that place nearly every year has ever since been called the Red Young Slide.

The Branch then went nearly 25 years without an accident which, when it did happen, was a bad one. A mixed train, on December 21, 1921, was on its way from Silverton to Durango when head engine 270 hit a rock slide on a curve just south of Tacoma and jumped the track, taking the flanger and engine 263 with it. They knocked the cribbing out and the whole business with Engineer Jim Connor, Fireman John Connor and Engineer Louis Johnson went rolling over and over for 200 feet to the bottom of the hill, landing in a jumble partly in the Animas River. Fireman Hindelang had jumped.

Conductor James Pheney, the rest of the crew and some miners went down to the wreck, looked around and could see nobody but finally found a foot sticking out of some rubble. They felt a pulse in the ankle and knew the fellow was alive. They tried to remove the wreckage but could not, so pulled the man out by the leg. It was Jim Connor. He had to spend six months in the hospital because of the injured leg. Johnson had been thrown into the tender and buried under coal. He dug himself out. John Connor's body was not found until the wreckage was removed. He had been a five foot, eight or nine inch man but the body had been so smashed that it was elongated to six and one-half feet.

On March 11, 1927 the passenger train was on its way from Durango to Silverton when engine 375 hit a kink in the track and turned over on the right side into the river. Fireman Jack Dieckman jumped but the Engineer Louis Johnson was caught and crushed.

A few years later the ditcher was working near Cascade loading rock on a flat car. Brakeman J. A. Kimmel leaned over the lower framework of the ditcher and when the top part swung around, it caught and crushed him.

Wrecks, especially of freight trains, have been innumerable but one wreck combined with a fire, of a passenger train called the "Million Dollar Special", made the headlines because of the special people and special train involved. M. V. Wilson, the brakeman, tells how it happened:

"The train was composed of three coaches, the P. B. and N. At that time it was the only known narrow gauge vestibule train. The P was the observation and business car with sleeping compartments; the B was the dining car. The N had a kitchen, a storeroom for supplies and a compartment for the train crew, part of which was used by the engine crew when tied up on the road. Our engine was the 169. The passengers were a group of eastern capitalists whose object was the buying of the Sunnyside mining property at Silverton.

"The snowslides were beginning to run, so in order to keep from getting snowed in, we left Silverton a day earlier than schedule at 5 o'clock in the evening. Our eastern passengers wanted to look over the power plant at Tacoma so we tied up there for the night and left at 7 the next morning. About 40 persons were on the train counting the

crew of four and one woman, the wife of the superintendent of the power plant at Tacoma. I do not recall the exact date but think it was in January 1918.

"Just south of Rockwood the whole train, engine and coaches, turned over on a rocky point. The engine was just into clear of the main line while the rear car slid 50 feet down the mountain side. The negro cooks were getting breakfast at the time and the stove was good and hot. There was a ten-gallon can of coal oil in the store room just next to the kitchen. Well, to make a long story short, this nice big can of oil poured itself into this nice hot stove which started the fireworks. The snow was about two feet deep. Johnnie Bell and his gang of men at the quarry at Bell's Spur saw the fire and came over to offer assistance. We saved the rear car, the P, by shoveling snow between it and two that were on fire. The B and N were totally destroyed.* No one was seriously injured—only had cuts and bruises. It was lucky everyone got out alive for the fire was raging in a few seconds after the turnover.

"The cause has never been determined but in my opinion it was ice and snow on the rail. The P, B and N, rebuilt soon after the wreck, are now the 1, 2 and 3 and are in Alamosa. Engine 169 is a relic in Cole Park in Alamosa."

The D. & R. G. W. had a fire and a lot of excitement in its yards in Durango April 8, 1947. The old ice house, a 20 by 30 foot structure, whose sides were filled with saw dust, was being used as a barn for Rio Grande Motorway trucks and as storage for tires, oil drums etc.; attached to it was a shed holding bridge and building supplies. Altogether it was a wonderful contraption for a fire. It sat just across from the depot.

Ernest Fiorini, a truck driver, saw a blaze in the "ice house" about 1 A. M. He broke a window, got in and drove four 1½ ton trucks out of the building. With the last one he pulled one coach and a caboose out of reach of the fire. The structure and everything in it was completely destroyed. Four coaches, two cabooses and a baggage car on tracks nearby were in different stages of being nearly or partly burned and all windows were broken. The luxury coach, the 272, used on the Durango to Alamosa passenger run was a complete loss—even the metal of the upper framework was melted.

Altho the Company denied for years without number that it meant to do away with all of the narrow gauge in southwestern Colorado the public of the area and the employees knew better. Evidence was on all sides—the continued discouragement of business, the nipping off of one branch after another and the almost accomplished wrecking of the Southern from which it obtains most of its business. The trustees, William McCarthy and Henry Swan, who took over in 1935, stated to a local newspaper in 1943 that the D. & R. G. W. intended to do away with all of the narrow gauge.

Upon the request of the community the Company arranged to run a tri-weekly train from Durango to Silverton to accomodate the Summer

* That is, everything that was burnable.

tourist trade. A specially built glass-domed car from which passengers can gaze upwards at the surrounding mountains is a novel feature.

In the Durango yards it was customary for the switch men, when they went to meals, to leave the engine setting on the main line in front of the passenger depot. One evening in 1917, Engineer Henry Klahn and Fireman Roy Turney reduced the steam pressure, opened the fire box door, set the reverse lever, applied the brakes and left for home.

A fellow, who had had something pretty good to drink, wandered down to the depot, saw an unoccupied engine, crawled up into the cab and pushed and pulled everything in sight. Evidently he moved the reverse lever, opened the throttle and released the brakes. Anyway the engine let out a big puff of steam and started for Silverton. The freight agent saw a locomotive going by at an extraordinary speed with a singing engineer sitting at the throttle. He wondered what hoghead had gone crazy. Klahn, whose house is on the hill above the railroad track, to his astonishment, saw his own engine go speeding by. She went fine for a while but, as the operator didn't feed her any coal, the steam ran down and she came to a stop.

Klahn and Turney took the other switch engine and started out, going carefully around curves as they didn't know when they might find a wreck. Beyond Animas City, more than three miles from the starting point, they found their locomotive right side up and on the track and the temporary engineer sitting at the throttle singing,

"Oh promise me that some day you and I
Will take our love together to the sky."

(Note—The solemn city fathers did not think it was so funny, at least not outwardly, and fined the poor fellow for disturbing the peace.)

At present one half of D. & R. G. W. stock is in the Missouri Pacific Treasury and the other half belongs to the Western Pacific Corporation of New York but is pledged to the Reconstruction Finance Corporation in Washington.

The Company had, because of poor performance, become the butt of ill remarks thruout the railroad world but due to the technical genius of Mr. Swan and because of war time business, it underwent a face lifting. In February of 1947 it was reorganized and emerged from receivership. Mr. McCarthy was made the new president while Mr. Swan retired to the board of directors. In October of 1947 the Company paid on its preferred stock a $5 dividend, the first since 1911. Later others were paid on both the preferred and common stocks.

On February 11, 1948 a spectacular incident occurred in that a snowslide came down on the Durango to Alamosa passenger train, 1½ miles west of Toltec, knocked over the parlor car and carried two coaches 300 feet to the bottom of the hill. Passengers had to struggle thru deep snow up to the track and some suffered from exposure, such as frosted feet. Tho several persons received quite painful injuries, there were no fatalities.

On May 20, 1948 the wires of a power line that had been weakened by high water on the Uncompahgre River, fell across telegraph wires causing a short that set three simultaneous fires: one in the D. & R. G.

depot at Ouray, another in the D. & R. G. W. depot at Ridgeway and the third in the R. G. S. office at Ridgeway, from which the roundhouse ignited. The last three buildings were only damaged but the Ouray depot was completely destroyed. Thus passed another railroad landmark!

The San Juan Country, or all of Colorado for that matter, has never properly appreciated General Palmer and few people now even recognize the name. He was a man of immense ability, courage and vision. He has been called "Empire Builder", a fitting title, for his idea was to open up and develop new, raw regions. He was the pioneer with railroads, pushing them into all of western Colorado and eastern Utah and even into the remote, inaccessible San Juan Mountains. He bought the land and laid out the townsites of Colorado Springs, Palmer Lake, South Pueblo, Alamosa and Durango. As he had done at Colorado Springs, he designed the parking for Third Avenue in Durango and donated the library site to the city. He, more than any other one person, is responsible for the settlement and development of the San Juan. The community owes him a monument.

SILVERTON BRANCH

Mile Post	Mileage	Station	Elevation
451.52	.00	Durango	6,520
453.95	2.43	Animas City	6,554
454.32	2.80	Ireland	
457.86	6.34	Home Ranch	6,559
460.69	9.17	Trimble	6,578
462.52	11.00	Hermosa	6,645
468.15	16.63	Bell	
469.09	17.57	Rockwood	7,367
472.28	20.75	Tacoma	
474.61	23.09	Cascade Tank	
478.02	26.50	Tefft	
478.44	26.92	Cascade	7,785
482.31	30.79	Needleton	8,141
483.60	——	County line, La Plata & San Juan.	
484.40	32.88	Needleton Tank	
490.47	38.95	Elk Park	8,883
494.16	42.64	Silverton Tank	
494.79	43.27	King Mine	
495.36	43.84	Rose	
496.00	44.48	Hercules	
496.31	44.79	Silverton Smelter Jct.	
496.70	45.18	Silverton	9,300
496.93	45.41	Silverton Northern R. R. Jct.	
497.13	45.61	End of Track	

Courtesy of Chris Bilder

Train in Animas Canon north of Rockwood.

Courtesy of Robt. Le Massena

The "San Juan," running between Durango and Alamosa,
the only narrow gauge vestibule train in existence.

OURAY BRANCH

Mile Post	Mileage	Station	Elevation
351.51	.00	Montrose	5,811
352.16	.65	Ouray Junction	5,836
356.15	4.64	Vernal	
359.54	8.03	Uncompahgre	6,183
363.33	——	County line, Montrose & Ouray	
363.84	12.33	Colona	6,409
366.50	14.99	Eldredge	6,542
369.03	17.52	Mayfield	
369.64	18.13	Cow Creek Tank	
374.36	22.85	Dallas	6,919
377.08	25.57	Ridgway	7,003
379.41	27.90	Louis	
380.09	28.58	Piedmont	7,109
385.14	33.63	Wanakah Smelter	7,581
385.41	33.90	Lotus	
386.15	34.64	Wanakah Mill	
387.41	35.90	Ouray	7,721
387.86	36.35	Electric Light & Sampler	7,777

LAKE CITY BRANCH *

Mile Post	Mileage	Station	Elevation
313.97	.00	Sapinero	7,255
314.78	.81	Lake Junction	7,235
322.81	8.84	Barnum	7,544
326.65	12.68	Barnum Section House	
328.00	14.03	Madera	
329.82	15.85	Gate View	7,881
332.94	18.97	Kelloggs No. 3	
334.68	20.71	Water Box	
334.79	20.82	Kelloggs No. 1	
337.63	23.66	Kelloggs No. 2	
339.54	25.57	Youman	8,322
341.08		County line, Gunnison and Hinsdale	
343.25	29.28	Kennedy	
349.85	35.88	Smelter	
350.53	36.56	Lake City	8,686

Bibliography—Data on the building of the railroad was compiled by Harry Walker from reports of Arthur Ridgway. Data or stories were supplied by William Wigglesworth, John Houk, Brice Patterson, F. E. Peake, James Pheney, Jack Dieckman, M. V. Wilson, Charles Knight, Harry Rudy, W. I. Gifford, the Reagan Report, C. G. Murray, Henry Klahn, Alex McLean, W. L. Bruce and Edward Meyer.

* Abandoned.

The Railroads of McKean County,* Pa.

INCLUDING THE NARROW GAUGE SYSTEM OF THE ERIE

By Charles F. H. Allen

Except for the width of a few miles along the shore of Lake Erie, northwestern Pennsylvania was largely an undeveloped area in the middle of the 19th century. Its hilly and mountainous nature discouraged agricultural pursuits, and the original forests were untouched as long as there was an ample supply of more accessible timber. While it was known to contain coal deposits, there was no need to open them up since the eastern Pennsylvania mines were capable of meeting all demands for this fuel.

The discovery of oil near Titusville in Crawford Cty., in 1859, caused an abrupt change in the general situation. The demand for transportation by the throngs seeking oil, and the need for all sorts of heavy equipment for building derricks, drilling wells, and providing for the essentials of life, resulted in the construction of railroads in the general area.

The preferred terrain for railroad construction between principal points had nearly all been previously utilized by the established railroads before the Civil War. Owing to the unfavorable locations remaining, the desire of every settlement to be on a railroad, the prospect of a limited amount of freight originating on the line, and the anticipated short life characteristic of the exploitation of natural resources, the inevitable result was the narrow gauge railroad. Having served their purpose, these roads were abandoned in whole or part, or widened to standard width and incorporated into larger roads. In the east the narrow gauge road was an institution peculiar to the oil country. Contemporary journals contain items such as these: "A ride over any branch was a novelty. Trains were remarkable for their ability in climbing hills and rounding the astonishing curves with which the railroad abounded. It cannot be said that much attention was paid to the time scheduled on the timetable, but passengers were repaid for the time lost in the beauty of the scenery and novelties displayed by this style of railroading." "Passengers who think they can walk faster than the train goes, and wish to try, will please not delay it by hanging on and dragging their feet." "The X RR has some cattle guards but they are not working to keep cattle off the track. Bergason's cow has a race quite often with the train, but they will never catch her until they get up more speed."

An interesting practice was the use of detachable trucks, so that cars could be operated on either standard or narrow gauge without the contents being unloaded. This was less expensive than laying a third rail, but its obvious drawbacks led to its eventual abandonment.

According to Mr. Soranson, these narrow gauge lines in northwestern Pennsylvania and to a lesser extent in southwestern New York

* This county was named for Gov. McKean (1799-1808), a signer of the Declaration of Independence.

comprised a system that traversed every hamlet, valley, or hilltop where oil might be located, and were very hustling corporations. "Fabulous sums were charged for any service enacted by the railroad, which was not hampered by any tariffs or regulations of any kind, except with the party involved. I have heard of hundreds of instances when transactions and transfers of several hundreds of dollars were made for simple switching purposes, to enable some parties to beat others similarly engaged. There was an old saying that any money which did not cling to the bell-cord belonged to the train crews. Very little apparently got into the treasuries of the railroad companies, as they all became defunct and bankrupt in a short period. Many of the members of the train crews owned splendid homes, furnished with pianos and other luxuries. Their salaries certainly would never sanction such extravagance."

With the diminishing supply of coal in eastern Pennsylvania for operating locomotives, the larger roads turned to the reported beds of the bituminous fuel in McKean, Elk, Jefferson and Clearfield Counties. The Erie was the first to build (p. 45). The transportation of coal was a long-range proposition and it was inconvenient to transfer en route, hence railroads for carrying coal were constructed with the standard gauge.

Modern logging roads are likewise built with the wider gauge. McKean County forests (with an area of about 1000 sq. mi.) abounded with pine, hemlock, cherry, ash, whitewood, curly and birdseye maple, and black birch. (The "Forest Republican" noted that cherry is now in much demand for ebony furniture, a "trade secret.") With the exhaustion of the forests, the railroads built solely to speed that condition were abandoned. Similarly, with the depletion of sand suitable for glass, this industry disappeared. Clay for bricks and tile is still an important factor in the area, however, and clay products continue to comprise one of the principal items of originating freight for the roads still in existence.

After the railroads were abandoned, the rails and other metal work were removed but the ties were left. In great part they were then utilized for roads; many modern highway routes follow the old roadbeds. The original forests were cut off to supply wood for building oil wells, storage units, barrels (all oil was shipped in wooden barrels in those days), and houses for the oilmen. Secondarily the bark was used in tanning leather, and the waste wood for charcoal. (This "chemical wood" gave wood alcohol and acetic acid as valuable by-products.)

For convenience in consideration the railroads are collected in several groups. In the treatment of each, any predecessors, the projected contemporaries, the subsidiary lines, and the successors resulting from reorganizations and consolidations are included in the interests of continuity. The first, or Erie, group comprises the standard gauge Buffalo, Bradford and Pittsburg, and the three 3-ft. roads which had physical connection with each other, which cooperated in service, and whose bonds were guaranteed by the New York, Lake Erie and Western RR. These last are the Tonawanda Valley and Cuba, the Bradford, Eldred and Cuba, and the Bradford, Bordell and Kinzua.

In the late 1880's a new industrial magnate, Elisha Kent Kane, appeared in McKean Cty. Among his many ventures were several railroads, mostly standard gauge, but the yard-wide Big Level and Kinzua was his first, and had the longest life of any of the 3-footers. On account of its close connection with the BB & K it is placed with the Erie Group. The Allegheny and Kinzua, Sugar Run, and Bradford and Western Pennsylvania will also be included, for they were dependent upon the Erie to distribute their originating products.

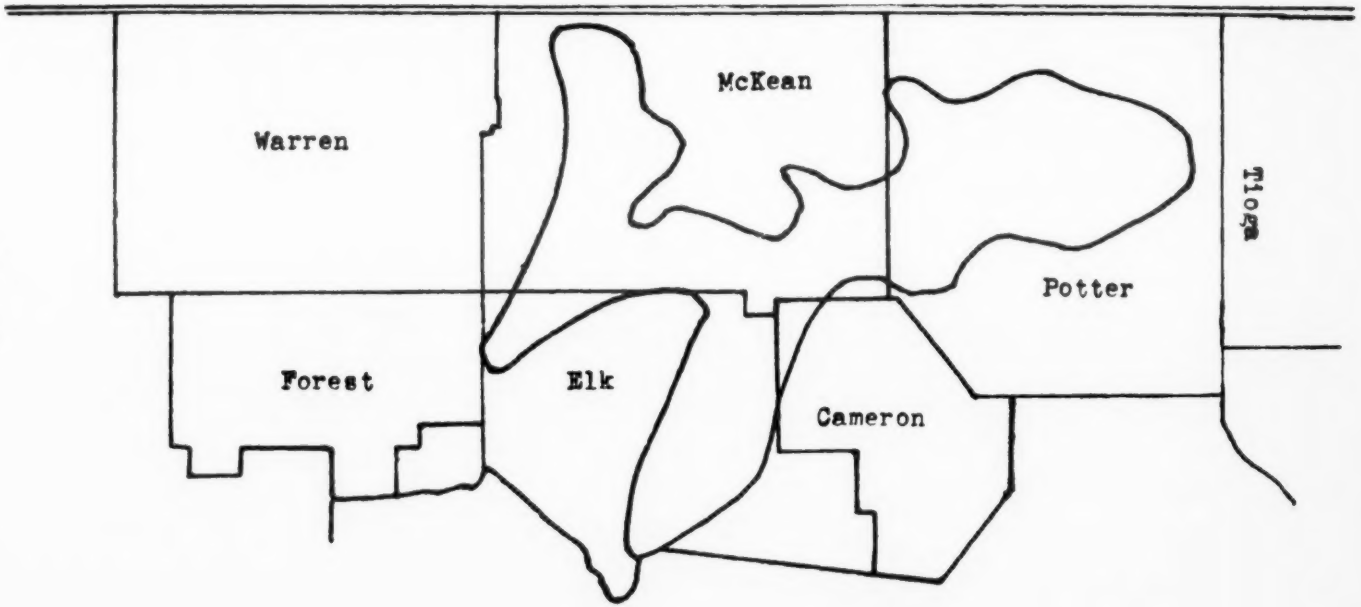
The Pennsylvania group includes the several small roads that ultimately became a part of the Pennsylvania RR system. Most of these were leased by the Buffalo, New York and Philadelphia. or its successor, the Western New York and Pennsylvania.

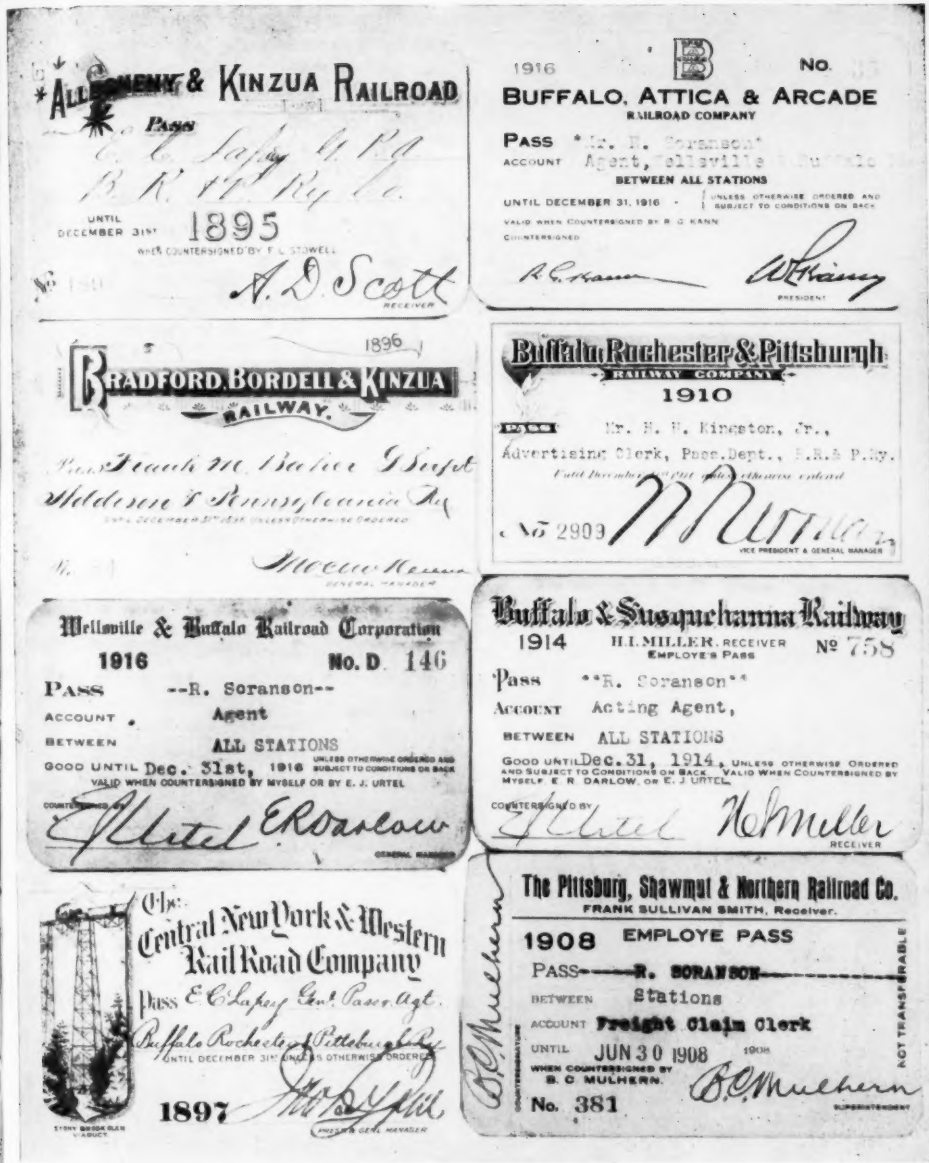
Third is the Buffalo, Rochester and Pittsburg, which passes through McKean County, but which has much greater holdings on either end. Fourth is Elisha Kane's Kushequa Route, the Mt. Jewett, Kinzua and Riterville, and related lines. The fifth describes the closing of the Pittsburg, Shawmut and Northern, while the sixth and last comprises a group of less pretentions lines which retained a great measure of their independence throughout their life. Not included are the Buffalo, New York and Philadelphia; the Philadelphia and Erie; the Pittsburgh and Western; and the Coudersport and Port Allegheny. In each instance the mileage in the county is small. The first three deserve a longer treatment than seems desirable here, while the last has been described relatively recently in contemporary publications.

Since the success or failure of a railroad was largely dependent on the groups backing their construction, biographical sketches of the officers and directors are given where material of this nature was available. It will be noted that local bankers and merchants formed the bulk of the directors at the time of organization and building. On the line officials were likely to respond more quickly to local conditions. However, when the conditions changed, due to exhaustion of the forests, oil, and other natural products, the railroad income dropped, and the local management was unable to cope with the new situation. Outsiders then appear among the officers and directors; while their advent often brought a new lease of life, it was but a temporary respite.

On the other hand, every village, regardless of its size, or the amount of its originating freight, was desirous of being on the railroad. Railroad construction fever was at its height in the 1880's. This resulted in expensive and often ill-advised construction, and probably contributed to the early demise of these small lines. Many were succeeded by interurban electric lines, which in turn were displaced by automobiles.

Finally, the population was not static, but gradually tended to concentrate in the larger towns and cities. The early villages lost their importance, and their industries moved away. When one looks at these settlements in their present state, one wonders how the amounts of money required to build a road could ever have been raised in such unpromising territory—the answer is, of course, that in those early days they were thriving towns with many industries.


Warren
McKean
Tioga
Potter
Forest
Elk
Cameron



A Group of Annual Passes of the McKean Co. RRs.

When scanning the records, one cannot help but be impressed by the frequency with which the names of certain individuals appear in the list of officers of more than one railroad. In some instances the roads are very closely connected, while in others the relation, if any, is less obvious. Different members of the same family and relatives are also found among the office-holders, which arouses a suspicion of nepotism.

The Big Level

In the accounts of certain of the McKean County railroads, even appearing in the names in two instances, is mentioned the Big Level, an unusual sort of terrain that had to be taken into account and that influenced decisions as to the location of the roads. The Big Level is an extensive table land or plateau, having an altitude of 2200 ft., which is considerably above that of the surrounding country (1500 ft.). It has a very irregular shape; it extends between Wetmore and Kane on the southwest, and to the north roughly parallels a line with Hubert Run and Kinzua Creek almost to the New York state line; thence east to a short distance south of Bradford, southerly to Mt. Jewett; then one end extends north and east covering roughly forty per cent of Potter Cty., almost to Tioga County (This is the celebrated Black Forest country.) The other loop reaches southerly through Elk and along the Cameron County line almost to Ridgway. The Big Level was regarded by the early settlers as unfit for habitation except by Scandinavians and Yankees!

Nearly all the railroads had to ascend this plateau, which was especially steep at the northern end, by some means or other. The Buffalo, Rochester and Pittsburgh accomplished this by the huge horseshoe curve at Droney's. The Pittsburg, Shawmut and Northern built its celebrated Kasson Loop and went bankrupt in so-doing.

The Kinzua Creek has eroded a huge gash in this plateau, which the Erie spanned by means of the famous Kinzua Bridge (p. 50). For some months after its construction special excursion trains carried thousands of sightseers. On June 18, 1888, 2000 persons had picnics under it; on that occasion Bayne, Fuller and Melvin, a Bradford oil firm, ran a special 3-coach train from Bradford. On November 16th the people of Bradford turned out to welcome U. S. Grant and to escort him to the big bridge.

A Brief Account of the Oil Fields Served by the 3-Footers

Oil in paying quantity was first discovered by Col. Drake, at Titusville, Pa., in 1859. In 1862, a well was drilled at Bradford in McKean County, but a few miles south of the New York state line. Several wells were then drilled in nearby New York. These were followed by an unsystematic exploration of the area; the first one, in Independence in 1865, revealed the presence of oil and gas. (It later developed that this well was stopped 300 ft. too soon!) In 1874, oil in commercial quantities was found at Bradford, Pa., and the Bradford field opened. The Bradford Oil Field recently celebrated its 75th anniversary. The total pro-

duction (to 1946) is amazing; 250,000,000 bbls. were obtained by straight run, and 235,000,000 by the modern technique of flooding.

The success of the Bradford field stimulated interest in nearby New York. The first well, drilled at Alma in 1877, 1800 ft. deep, cost $4000. It was a failure by the standards of those days, though there was considerable gas at 300 ft. and oil at 1000 ft.; the gas caught fire and burned the derrick. However, it showed the presence of oil-bearing rock. Three other dry wells showed the northern limit of the field.

The next well was the famous Triangle No. 1 in Scio, completed on June 12, 1879. This well, 4.5 miles west of Wellsville, was a "gusher." The oil sand was found to be between the depths of 1109 and 1153 ft. With a few more wells, both dry and "gushers," the Allegany, N. Y., field was assured. People began pouring in, by horse and on foot. The field was extended to the south by the discovery of the Richburg gusher on April 28, 1881, with 80 42-gal. barrels the first day. Here the sand was 20 ft. thick and 1280 ft. down.* Richburg was the center of and key to the field. The Boyle well, which started with 200 barrels the first day, was struck in June, 1881. Hundreds of wells (some dry) were drilled over the townships of Alma, Bolivar, Scio, and Wirt (Richburg is in the last). There were 1605 wells by the end of 1882, and 5046 at the end of 1889.

In 1881 the Allegany field produced 681,509 bbls. of oil; the top record was in 1882, with 6,519,000 bbls. Up to 1895, a total of 29,000,000 bbls., had been removed. By 1913 the annual production was down to 750,000 bbls., but with the introduction of the modern "flooding" technique, which consists of forcing oil up out of wells by water pressure, the output was raised to 5,478,000 bbls. in 1937. Thus the field is again active. Much painting of storage tanks and installation of new pumps, largely electrically operated, encourages the idea (1946) that oil production is expected to increase.

The first big reverse also came in 1882, when the Cherry Grove, Pa., gusher came in; the price dropped to 49c per bbl. However, this lasted but a short time, the price rising to $1 per bbl. within a year. The largest wells were in Bolivar; these started at 400 bbl. a day. Although the oil rush subsided shortly, the area is still producing oil and gas, but not to so large an extent as the Bradford district.

None of the many railroads once known to Bolivar now exist; in the first of the '80's it was not a surprising thing to awaken in the morning and find a new railroad in town! The Pittsburgh, Shawmut and Northern, which continued service north of Bolivar in 1946, was completely abandoned in January, 1947.

In the summer of 1880, a settlement sprang up near the three then-famous Triangle wells; it was named Triangle City. Very shortly the name was changed to Petrolia. Commenting adversely, the *Wellsville Reporter* for Mar. 17, 1881, said: "The soft, greasy, good natured name of Petrolia has been substituted for the merry, jingling, musical name of

* The average depth of the oil wells in the district was 1200-1300 ft. In 1882 it cost $2,200 to drill such a well.

Triangle City." Today Petrolia is a small hamlet where three roads intersect on the highway between Wellsville and Alma. A bronze plaque commemorates the discovery on the Triangle oil wells here; there is a similar plaque at Richburg relating to the Richburg gusher. At the time of writing (1946) there is a resurgence of oil operation in the Petrolia area, with new wells, new pumps, and freshly painted, or new storage tanks.

Richburg, which in 1942 was a village of 580, may be taken as typical of the "ups and downs of oildom." Its rise and fall have been thus well described by an Allegany county journalist in *The Buffalo Express:*

"On April 26, 1881, Richburg was a quiet little village of perhaps 150 people, and was connected with the outside world by a stage line. Within a few months it was one of the liveliest oil towns in the country, and boasted of a population of nearly 8,000, recruited from the four points of the compass. Stores, hotels, machine shops, saloons, bagnios, dance-houses and gambling dens sprung up as if by magic. For several weeks after the tide set in, sleeping apartments indoors could not be secured at any price, and many a night several hundred of Richburg's floating population slept on benches under the maple trees in the village park, in many cases on the bare ground. One old oil man remembers paying a dollar for the privilege of sleeping on a billiard-table over night, and another paid half as much for the privilege of sleeping in a bar-room chair. At this time Richburg boasted of two banks, and a morning and evening newspaper. The *Oil Echo*, a morning paper edited by P. C. Boyle, now editor of the *Oil City Derrick*, was printed on a three-revolution Hoe press and possessed a valuable news franchise. The first month's freight receipts, when the Allegany Central railroad was completed as far as Richburg, amounted to $12,000; a box-car served as a depot for some time. The Bradford, Eldred & Cuba railroad built a spur from Bolivar up the valley to Richburg and ran trains both ways every half hour. For a long time the spur averaged 700 passengers daily. Rent for building lots quickly jumped and $500 a year rent for a 20-foot front lot on Main Street was not regarded as extortionate. In fact, the lot owner could name his own price. Everybody was 'oil crazy.' Oil wells were drilled in village gardens and in door-yards. Even the church people became afflicted with the popular craze. One of the leading ministers speculated in oil on week days and preached powerful sermons on Sunday, and no one chided him. A well was finally drilled on a parsonage lot, and oil was struck, but the venture was not a profitable one and the trustees decided that it was not best to invest church funds in that kind of a gamble. Richburg had a fine system of water works, an electric fire-alarm system, an elegant brick church, a fine opera house, and at one time a street-car line was strongly talked of. Liquor was sold at 100 different places, and prostitutes occupied over 40 buildings. In one instance the village gristmill was purchased and converted into a bagnio. The finest attractions were nightly seen at the opera house and money flowed like water. But the boom was not to last forever. In May, 1882, the news of the big gusher at Cherry Grove carried the floating population away with a rush and few of them ever returned. This was the beginning of the end of Richburg's greatness.

Bolivar, a little hamlet a mile further down the valley, began to boom in earnest early in 1882, and gradually superseded Richburg as the metropolis of the Allegany field. Fires swept away some of Richburg's noted buildings, and many others were torn down and moved to adjacent villages. Fine buildings that cost thousands of dollars went for a mere song. Today Richburg is desolate and almost deserted, and in a few years it will appear very much as it did before the oil boom came. The population at present is less than 400. An elegant church and a fine academy building are the only noted relics of its former greatness. The opera house in which operatic stars once shone so brightly is now used as a cheese factory, and the railroads have given way to a stage line."

Mr. Soranson writes, "I saw the spot where an oil-town bank was formerly located, and the place was littered with bank records and thousands of cancelled checks, scattered around on the ground. This was in 1892 or 1893. The rail line had been torn up before my visit."

The "Warren Mail" for Oct. 12, 1880 notes: "oil men are slightly crazy." It is a common sight to see carpenters building a new rig to start another well, while oil from the well just brought in is running away down the brook for want of a storage tank.

In 1872 the Standard Oil Co. entered into an agreement with the Pennsylvania RR. covering its entire oil tonnage at rates so discriminating as to enable it to control all transportation of oil from the Pennsylvania fields, and so the price of the product. With a few minor lapses, due to vigorous opposition, this lasted unti the formation of the Interstate Commerce Commission in 1888.

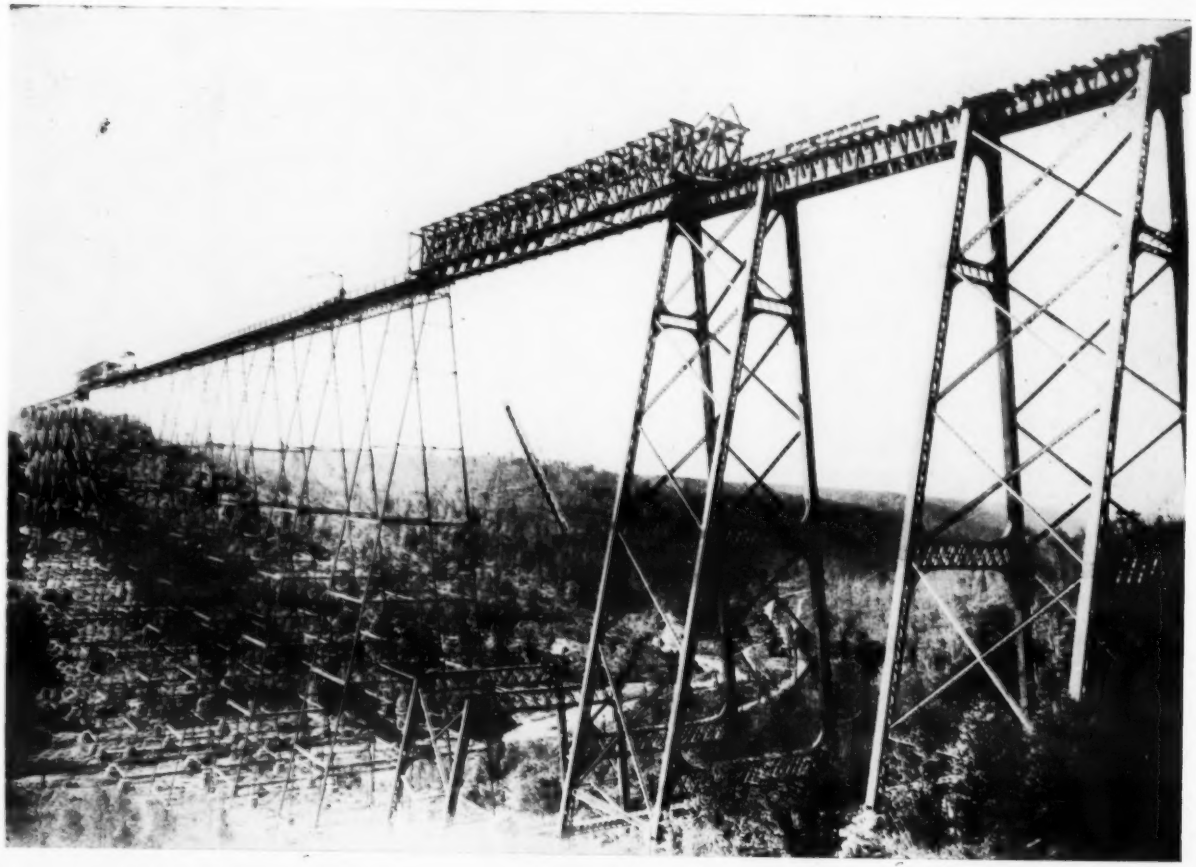
Acknowledgments

In addition to the usual sources of information such as Poor's Manual of Railroads,* the Annual Reports of the Railroad Commissioners and Engineers of the State of New York, Annual Reports of the Secretary of Internal Affairs of Pennsylvania, Railway Gazette, Edward H. Mott's "Between the Ocean and the Lakes," county histories, and contemporary newspapers, special mention should be made of several individuals, now or formerly employed by the various railroads.

Mr. J. Taney Willcox, secretary, Howard Gilbert of the Publicity Department of the Pennsylvania RR Co. and Miss Elva M. Ferguson, librarian, contributed data on the former narrow gauge lines of the Pennsylvania group.

Mr. W. J. Caverly of the B & O, entered the service of the Erie Ry. Co., April, 1900, as a telegraph operator at Bradford, later moving to Mt. Jewett. He was transfered to the BR & P on June 1, 1906, when that part of the Erie between Mt. Jewett and Johnsonburg was leased to them, and then transferred to the B & O July 1, 1932, when the BR & P was taken over. He has completed 47 years of actual service.

* The distances between points as given in timetables, various Poor's Manuals and the Valuation Report of the Interstate Commerce Commission, do not always agree. Furthermore, the same mistakes in names and initials are often found in more than one source for the same year, suggesting that the information had a common origin responsible for the error.



"Reconstruction"

Courtesy of Erie Railroad Co.

Courtesy of Erie Railroad Co.

"Reconstruction"

Mr. C. L. Collum, of Meadville, is the son of an Erie RR man.

Mr. Roy Davis has been a civil engineer in the Mt. Jewett-Bradford area for many years.

Mr. D. H. Kirkwood is the present B & O agent at Foxburg, and has been there since 1912. At present he also handles considerable telegraph business for the Pennsylvania RR at that point.

Mr. Maxwell J. Moore, of Bradford, formerly conductor on the B & O and BR & P, wrote a most interesting account of his experiences on the latter for the "Railroad" magazine, Sept., 1943, issue.

Mr. Randolph Soranson of St. Marys began his railroad life in 1885 with the Addison and Northern Pennsylvania as a stenographer (at this period a knowledge of shorthand was still uncommon). He went with the Goodyears on the Buffalo and Susquehanna RR in 1894, remaining until he essayed publishing a newspaper, the Galeton Despatch in 1902. This venture proving unsatisfactory, he went with the Pittsburgh, Shawmut and Northern from 1903-1910, at which date he returned to the Goodyears, serving as a joint agent at Arcade for the Buffalo and Susquehanna Ry., and the Buffalo, Attica and Arcade. When the Wellsville and Buffalo was abandoned in 1917 he went to the Pittsburg and Shawmut where he remained until 1923. Since that date he has been in the mercantile business in St. Marys, Pa.

BUFFALO, BRADFORD AND PITTSBURGH

Much of McKean County in northwestern Penna., an undeveloped wilderness in the 1850's, was owned by the United States Land Co. Extensive deposits of bituminous coal had been reported in the area. Daniel Kingsbury, believing that there were valuable coal lands, purchased 200,000 acres for development. Several railroad companies were organized on paper within a decade. For instance, The Buffalo and Pittsburgh Railroad Co. was organized at Tifft House in Buffalo, under the laws of the State of New York, on Oct. 13, 1852, with Orlando Allen as president, to construct a railroad that would connect Buffalo with the bituminous coal lands of McKean County. Contracts were let for grading the road between Buffalo and Ellicottville, and from the latter to the Penna. line, into the valley of Tunungawant (later Tuna Creek) Creek, but the work was soon abandoned.

The Buffalo and Bradford RR. Co. was chartered on Mar. 14, 1856, in Pa. to build a road up the valley of the creek to the mines in Lafayette township of McKean County, with the privilege of constructing branches not more than 10 mi. in length to mines in McKean, Elk, and Clearfield Counties, and to intersect with the Sunbury and Erie, and Alleghany Valley RRs. The railroad was to be begun within ten years. Daniel Kingsbury was the projector and principal stockholder, and was elected president. The others interested were Elihu J. Baldwin, Sam C. Casey, Samuel Conklin, Watson A. Fox, Sylvanus Holmes, Abram K. Johnson, and Sebius Walker. The chief engineer was Frank Williamson and the assistant engineer was Augustus W. Newell. The road was completed to Littleton (later renamed Bradford) by 1863. The follow-

ing story, related by A. W. Newell (to Mott), describes the early difficulties of the new road.

"We commenced the survey very early in the spring of 1856, the snow in the hemlock swamps, the heavy down timber, and dense underbrush rendering the work almost impossible. There were very few settlers, and of very little means, living in small log houses except in the villages. The roads up the valley were almost impassible, and a bob-sled drawn by a pair of oxen was a common conveyance in summer or winter. I was assistant engineer, or, in other words, I did the work. Every centre stake and every level was set by me from Erie Jct., now Carrollton, to Bradford. Our first contractors were King and Loomis, and after that John S. King, who graded the road to Bradford and 7 mi. up the west branch.

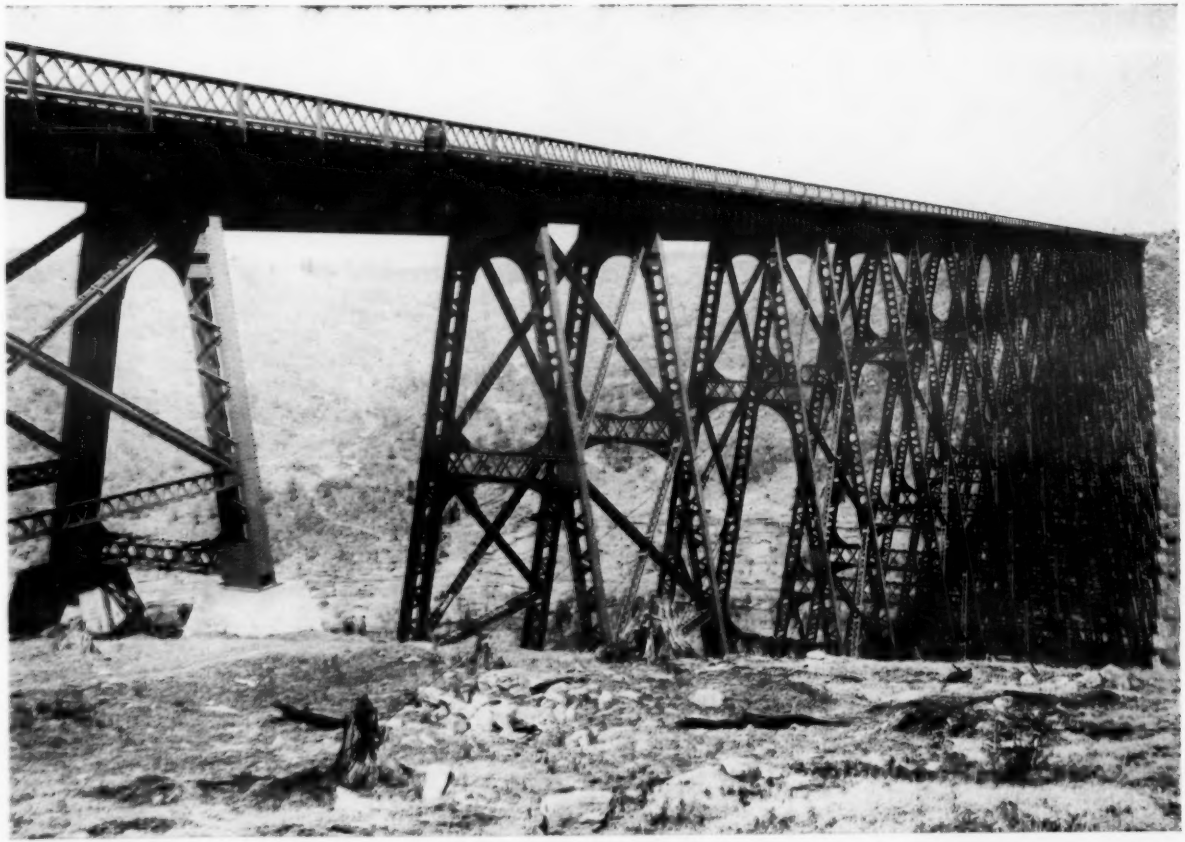
"We got the rails laid to Bradford. The 'Orange' was the first locomotive. We had an engineer, fireman, express car, and one or two brakemen, and I think several conductors. The receipts did not pay the running expenses and the trains were discontinued after a few weeks. I did not get my pay for services on the road (and never did).

"The road was abandoned for a time, and briers and weeds grew up the whole length of it. I bought a handcar and tried to make a living that way, and that was work. Then I took a set of wheels and boxes from a gravel car, and made a covered platform car. Upon this, after much difficulty, I placed a little 5-inch single cylinder engine, formerly used in drilling oil wells connecting it by a belt to a pulley on the axle. To the surprise of all I made it work, and I made it pay. I ran this engine about about one and a half years. I was 'busted,' a bankrupt, and mighty few friends; but $10 a day and upwards that I made running my train soon brought them back and the road into notice.

"My old friend, Charles Minot, superintendent of the Erie, I took over the road. He enjoyed the trip heartily. He and his friends in the Erie bought out the company, putting me in as one of the new directors. We then changed the road to its present location. I continued to operate the road on shares for a year or more, employing my own men, until my contract expired, when a conductor named Kerr took the train. Joe Haggerty was engineer. He was a brother-in-law of H. G. Brooks.

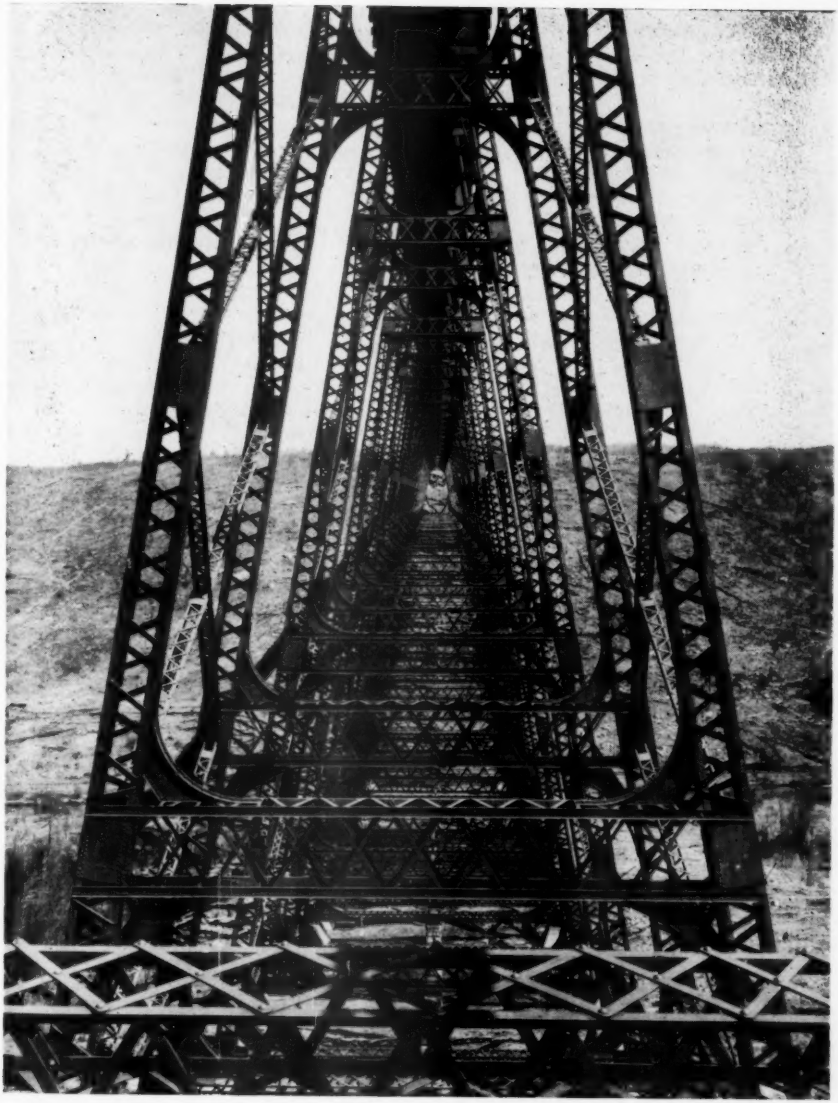
"Daniel Kingsbury was an uncle of mine, and was the sole owner at the time the Erie, or its officers, rather, bought it. The present coal beds now owned and worked by the Erie were part of his lands. He failed to get an outlet during his lifetime."

"A. W. Newell was born in Newton, Mass., on Oct. 9, 1832. He began the study of civil engineering at the age of 13. He worked in his father's office, and helped survey several railroads. Young Newell gave his uncle, Daniel Kingsbury, his savings to invest, but the company went bankrupt, owing him the money. He conceived the idea of hiring an engine and running a train himself; permission to do this was readily granted. He hired a man to help him mow off the weeds between Bradford and Carrollton. Otherwise he was his own crew. He soon earned enough to pay off the indebtedness. He invested his profits in real estate,



"The present Kinzua Bridge."

Courtesy of Erie Railroad Co.



"Looking through the bridge."

Courtesy of Erie Railroad Co.

and prospered. He was a prominent municipal servant. His life was "an honorable, upright and useful one."

The locomotive "Orange" was the No. 4 on the Erie, and built by William Norris in 1841; the records of it were lost. It became famous on the eastern end of the road; after some years it was sold to the Attica and Hornellsville RR. It was the only engine of that company and was used in all the construction work between Hornell and Portage. When that part of the road had been finished, the locomotive was ferried across the Genesee River (the bridge had not been built) and ran to Warsaw. It was the first locomotive to run in the Genesee Valley. In 1853, it was "worn out," so became the pioneer locomotive on the Buffalo, Bradford, and Pittsburgh.

Other paper companies were the Bradford Railroad and Coal Co., which was incorporated on May 28, 1840, and the McKean County Railroad Co., which was incorporated under an act passed on May 12, 1858, and authorized to construct a 25-mi. road from the head of slackwater navigation on the Alleghany River to the bituminous coal field of McKean County. While it was reported in 1860 that work had already commenced and considerable progress had been made toward construction of the line, no further records were located. The officers, both of Buffalo, were J. C. Colton, president, and Alfred Ely, treasurer. Two companies, also elusive, the Pittsburgh, Buffalo and Rochester, and the Brandy Camp, were to have been combined with the Buffalo, Bradford and Pittsburg, in H. J. Jewett's consolidation plan of 1876.

The Buffalo, Bradford, and Pittsburgh RR. Co. was a consolidated corporation of the States of Pennsylvania and New York, formed by the consolidation under an agreement, dated Feb. 26, 1859, of The Buffalo and Bradford RR. Co., a corporation of the State of Pennsylvania, and Buffalo and Pittsburgh RR. Co., a corporation of the State of New York. (The railroad, property and franchises of The Buffalo, Bradford and Pittsburgh RR. Co. were conveyed to the Erie RR Co. by a deed, dated Dec. 22, 1941, and the grantor Company was thereafter dissolved in Penna. on Oct. 22, 1942, and in N. Y. on Nov. 10, 1942.)

Charles Minot came to the Erie as general superintendent in 1850 from the Boston and Maine, where he had held a similar position. He is best known as the man who brought about the use of the telegraph for train dispatching. He and his friends, who were Samuel Marsh, Vice-Pres., John Arnott, Supt., Dorman B. Eaton, "and others interested in the management," (all of whom were directors on the Erie) believed that there was a future in this wilderness road. They bought the road for themselves from Daniel Kingsbury for a song and leased its operation to Newell, as mentioned. They had completed the extension to Buttsville (Alton) by 1866. Since the expected coal and other developments had not been made, they "unloaded it" at a profit to themselves of $75,000 apiece! It was leased to the Erie Ry. Co. in perpetuity, as of Jan. 5, 1866. According to Cornelius Vanderbilt, it was a worthless road foisted upon the Erie to enrich the directors concerned in organizing it—an allegation undoubtedly true at the time. It was operated by the Erie Ry. Co., New York, Lake Erie and Western RR. Co., and Erie

RR. Co. in turn; at the time the railroad, property and franchises were conveyed to the Erie RR. Co. the latter owned 22,142 out of the 22,862 shares, issued and outstanding, of the capital stock of The BB & P RR. Co.

In 1873 the Erie purchased large coal lands in the area to the south, but on May 26, 1875, it entered into a receivership. At that time the road (BB & P) did a business of $2500 per year, but with the discovery of the Bradford oil field, that town became the Mecca of oil producers, and for the next ten years was the petroleum center of the world. The Bradford branch earned $2500 a day, and became the most valuable of the collateral branches of the Erie.

The "Warren Mail" for Mar. 12, 1878, reported that the three Bradford railroads did an immense business; that the Erie's Tuna Branch might have been built just for this business. The other two railroads were the Olean, Bradford and Warren and the Bradford and Foster Brook; the latter ran a half hour service to Tarport—the type of construction allowed a 60-mi. per hour speed.

Meanwhile the 10-year administration of president Hugh Judge Jewett (1874-1884) was endeavoring to pull the railroad out of the mess left after the machinations of Drew, Fiske and Gould. After much urging, Jewett came from Ohio, where he had attained a reputation for business sagacity and foresight as result of his past management of railroad properties, and was prominent politically in national affairs. He did a much better job than could have been expected. The Erie Railway Co. was reorganized as The New York, Lake Erie and Western RR. Co. In order to get at the Erie coal lands in Elk and Jefferson Counties, The New York, Lake Erie and Western Coal and Railroad Co.* was organized on Jan. 28, 1881, with Gen. Thomas L. Kane as president, to build an extension of the Buffalo, Bradford and Pittsburgh south from Crawford Jct. to Johnsonburg, a distance of 29.92 miles. The extension was completed in 1882. With its branches (totalling 22-23 mi.) it reached to the Toby, Dagus, and West Clarion coal mines in the Shawmut district.

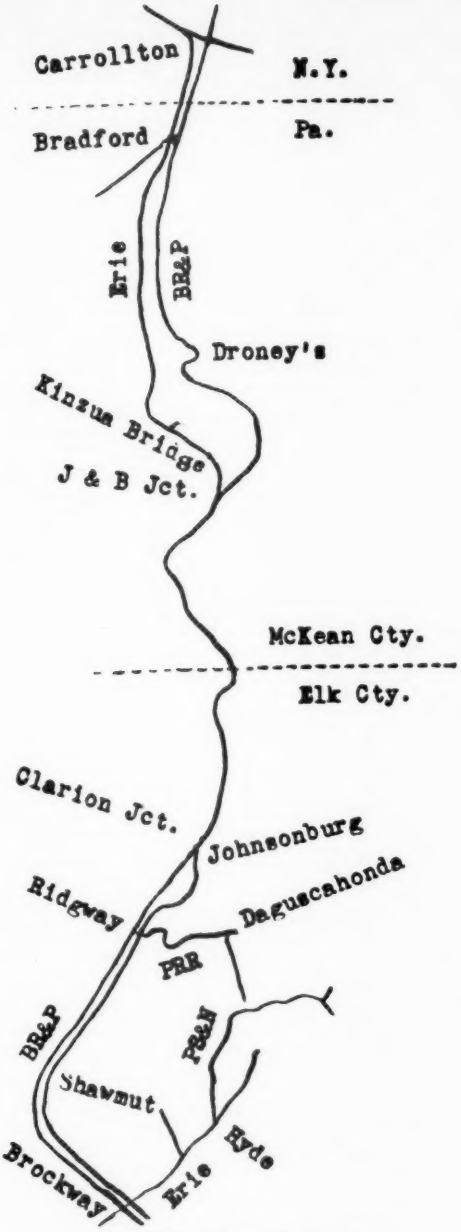
The group of lines in this area of Pennsylvania is now known as the Bradford Division of the Erie; it is composed of the former Buffalo, Bradford and Pittsburgh; The New York, Lake Erie and Western Coal and Railroad Co. (Crawford to Johnsonburg); various branches; and 27.76 mi. of trackage rights over the Philadelphia and Erie (now PRR). The rights include the 22.76 mi. between Johnsonburg and Brockway, and the 5 mi. from Ridgway to Daguscahonda.

The present Erie RR Co. was organized on Nov. 13, 1895, to take over several railroad properties including that of the NYLE & WRRCo

* This company was originally incorporated as the Wilcox and Howard Hill Improvement Co. by a special act of the Penna. legislature, approved on Apr. 8. 1870 "with power to hold lands in McKean and Elk Counties and to construct and operate a railroad or railroads leading from any lands holden by them to the Philadelphia and Erie or Allegheny Valley Railroad or connecting any two or more railroads which may be constructed by them in either or both of said counties," and the name was changed to New York, Lake Erie and Western Coal and Railroad Co. by Decree of the Court of Common Pleas of McKean Cty., Pa., on June 28, 1881.

Courtesy of William Gordon

"The original Kinzua Bridge."



Buffalo, Bradford and Pittsburgh (Erie).

which had been sold under foreclosure on Nov. 6th to a committee of security holders. The Erie owns the entire capital stock of the NYLE & W.

The stations and points of interest are 0.0, Carrollton; 2.2, Riverside; 6.5, Limestone, N. Y.; 9.0, Tuna, Pa.; 10.5, E. Bradford; 11.7, Bradford; 12.4, W. Bradford; 15.2, Custer City; 16.6, Howard Jct.; 17.4, Lewis Run; 19.4, Big Shanty; 23.8, Crawford; 25.4, Riderville; 27.9, Kinzua Viaduct; 30, Fraleys; 32.3, J & B Jct.; 32.8, Mt. Jewett; 35.2, Freeman; 38.6, Hutchins; 42.2, Midmont; 43.8, Rasselas; 49.0, Ketner; 52.8, Clarion Jct.; 53.7, Johnsonburg. There are rail connections with the former Buffalo, Rochester & Pittsburgh at Howard, J & B, and Clarion Junctions agreement between the Erie and BR & P on joint use of track between the two latter points (in subsequent paper). Crawford is where the branch (former main line) went to Alton and Buttsville. At Freeman there is a wye on which the Erie turns its pusher engines.

There were several branches, the earliest being the West Branch, which was built from Bradford up the western branch of Tuna Creek in 1880. About 1886 this was extended so as to make the total length 10.84 miles. At some time between June 30, 1897 and June 30, 1898, the further end was abandoned, leaving 5.24 mi. between Bradford and Nusbaum. The further end (3.68 mi.) of this segment was abandoned on Oct. 12, 1926, and all of the remainder except 1.01 miles in Bradford was discontinued in 1937.

The end of the former main line between Crawford and Alton (1.56 mi.) was a branch after the extension to Johnsonburg was completed, and was abandoned in 1925.

The Daguscahonda and Elk branch of the Erie, which may be seen on old maps, was a very hilly piece of track, 5.50 mi. in length, between Daguscahonda (on the Phila. and Erie) and the Dagus Mines. It was constructed in 1883-4. With the depletion of the coal, this branch was abandoned between June 30, 1911 and June 30, 1912.

In 1881-2 the NYLE & W Coal and RR. Co. built the Toby Branch up Toby Creek from Brockwayville (now Brockway) to Dagus Mines (12.23 mi.); at present it terminates at Kyler (10.56 mi. from Brockway). The Kyler Run branch (1.42 mi.) extends from Bundy Jct. on the Toby Branch to the Eureka Mines.

There are also two other lines of railroad in this territory: (1) The former West Clarion RR. Co. extends from a connection with the PRR at Brockway to a connection with the B & &O (ex-BR & P) at "WI" Tower in Brockway (0.93 mi.). The portion between a point west of Toby Creek in Brockway to the West Clarion Mines in Snyder Township (2.745 mi.) was abandoned in 1925. The former Brockport and Shawmut RR. Co. (Mead Run Branch—not to be confused with the Mead Run RR., leased to the Mt JK & R) extended from the former NYLE & W in Brockway to a connection with the former Pittsburgh, Shawmut and Northern at Shawmut, Pa. In 1940, the railroad, properties and franchises of the Brockport and Shawmut were purchased by the NYLE & W Coal and RR Co.

Before the formation of the PS & N, its predecessor, the St. Marys Southwestern, had a parallel branch to Shawmut, terminating at Drummond, 1.26 mi. beyond. The PS & N had trackage rights from the Erie between Hyde and Brockway, and up the branch from Brockport to Shawmut thus abandoning the StMSW between those points.

In the agreement between the Erie RR. Co. and the St. Marys Southwestern, dated May 1, 1896, the latter was given trackage rights over the Mead Run Branch, and the portion of the Toby branch between Hyde and Brockport. This agreement, which expired in 1898 was succeeded by one between the Erie and the Buffalo, St. Marys and Southwestern (successor to the StMSW), granting the same rights, and when the new road, in turn, was merged into the Pittsburgh, Shawmut, and Northern, the trackage was continued; it was in effect when the PS & N was abandoned in 1947.

The stops on the Toby Creek branch now are 0.0, Brockway; 0.7, Erie Jct.; 1.8, Crenshaw; 3.4, Brockport; 5.1, Helen Mills; 6.2, Hyde; 10.1, Toby No. 3; 10.4, Kylers Corners; 10.7, Coal Hollow; 11.4, Kylers Mines. At Erie Jct., the Erie crosses and connects with the Pittsburgh and Shawmut (BULLETIN No. 64, p. 42). On the Mead Run branch, the stops are Brockport, Mead Run and Shawmut.

The leased line from Johnsonburg to Brockway (PRR) runs on the east side of the Clarion River, essentially parallel to the BR & P which is on the west side. It is rather wild country—one often sees deer from the train. The stops are Johnsonburg, Whistletown, Ridgeway, Thayers, Mill Creek, Carman and Brockway.

The railroads, property and franchises of the New York, Lake Erie and Western Coal and Railroad Co. and The West Clarion Railroad Co. were conveyed to the Erie RR. Co. by deeds dated Dec. 22, 1941, the grant or companies being dissolved in October, 1942. The railroad of the NYLE & W Coal and RR. Co. was leased in Aug., 1890, to the NYLE & W RR Co., a predecessor of the present Erie RR Co., and at the time of the Deed of Conveyance to Erie RR Co. in 1941 it was jointly controlled by Erie RR Co. and Northwestern Mining and Exchange Co. through ownership of its entire capital stock, and the entire capital stock of the Northwestern Co. was and still is owned by the Erie RR Co.

The most famous feature of construction on the New York, Lake Erie and Western Coal and Railroad Co. was the huge bridge that crosses the valley of Kinzua Creek 5 miles north of Mt. Jewett; the creek had cut a huge gash in the plateau, the "Big Level," described in the introduction. This structure was known as the Kinzua Viaduct or Kinzua Bridge.

The original structure, 2053 feet long and 301 feet high, was built in 1882; construction began on May 10th and was completed on Aug. 29th (94 days). The work was financed and carried on by The New York, Lake Erie and Western RR, under direction of Octave Chanute, the chief engineer. The first assistant engineer was Charles Pugsley, and his assistants were C. H. Keefer and William Seaman. The structure was located and designed by the NYLE & W Coal and RR. Co.'s chief engineer, Oliver W. Barnes, with A. Bonanzo and T. C. Clarke of Clarke,

Reeves and Co. of the Phoenixville Bridge Works (Phoenix Bridge Co.). The erection was carried out by the bridge company, under the direction of R. A. Simmons, Supt. of Erection. The masonry substructure, which was carried down to bedrock, was built by John C. Noakes. The superstructure, erected on 20 skeleton towers, consisted of trusses 38.5 ft. long over the towers, and 60 ft. between the towers. The weight of the bridge was 3,105,000 pounds; it was 2000 ft. above sea level.

With the introduction of locomotives of increased weight it became necessary to reconstruct the bridge; it was not an instance of defects or decay appearing. It was important to have the bridge out of operation as few days as possible, hence the old foundations, which were still sound, were utilized. The superstructure was rebuilt by the Elmira Bridge Co. under the guidance of Chief Engineer C. W. Buchholz and Bridge Engineer Mason R. Strong, the Resident Engineer being F. A. Howard. It was an all-riveted structure of the same dimensions, but with a weight of 6,715,000 lbs. The contractors, Messrs. Grattan & Jennings of Buffalo, employed 140-150 men.

Traffic was stopped on May 14th, and construction begun on May 24th, the first metal being placed on May 26th. The new bridge was built from the old one. Two "travelers," each of which were 180-ft. Howe truss timber bridges, were built and run out over the old bridge, one from each end; these truss spans were long enough to go over three towers at the same time. The intermediate tower was dismantled and replaced by a new one; the accompanying picture enables one to visualize the operation. The temporary interruption of the work by a strike from July 17-24 had a distinctly modern sound! The last girder was set in place on Sept. 6th and traffic was resumed on Sep. 25th. The bridge stands today, an imposing structure, and a monument to the engineering skill of our forebears.

The four photographs are (1) the old bridge, (2) erection of the new bridge with the travelling wooden trusses (3) the new [present] bridge, and (4) looking through the towers. The railroad seen down below, paralleling the creek is the Mt. Jewett, Kinzua and Ritersville, now abandoned.

Mr. M. J. Caverly, of Mt. Jewett, remembers when the Erie ran Sunday excursions from cities as far away as Binghamton. All sorts of people patronized the special trains; shady characters operating the old shell game held forth with more ambition than wisdom in some cases, and fierce fights sometimes started right on the bridge itself. Wiser heads prevented casualties, however.

It is to be hoped that the Erie will again run excursions, perhaps sponsored by the Railway societies like other fan trips.

ACKNOWLEDGEMENT: I am happy to acknowledge the valuable information and photographs so kindly supplied by Mr. George C. Frank, Assistant to the President, and C. B. Townsend, Sect., of the Erie Railroad Co.

Other data was found in Poor's Manuals and in the "Scientific American" of Oct. 27, 1900, and in "Between the Ocean and the Lakes. The Story of the Erie." by Edward Harold Mott. 1899.

THE TONAWANDA VALLEY AND CUBA, AND PREDECESSOR RAILROAD COMPANIES

ATTICA AND ALLEGHENY VALLEY

As the result of many years' agitation, the Attica and Allegheny Valley Railroad Co. was organized on Nov. 4, 1852. Although the grandiose scheme was to connect Buffalo and Pittsburgh, the actual incorporation specified only the distance from Attica to the Pennsylvania state line in Cattaraugus County, a distance of 74 miles. The railroad was to be built with a width of three feet. About 25 mi. between Attica and Arcade was graded in 1853-1854 with an expenditure of $350,000. On foreclosure of a mortgage, the road was sold on Feb. 2, 1856. The project languished until after the Civil War when agitation was resumed and terminated in the organization of the Attica and Arcade Railroad Co.

ATTICA AND ARCADE RAILROAD CO.

This was organized on Feb. 28, 1870, to build a 3-foot gauge railroad over the 26 miles between those two towns. The capitalization was set at $250,000, of which $100,000 was subscribed, but only $2,500 was paid in.

The officers and directors were as follows:

Pres.: Benjamin R. Folsom, of Attica
Sect.: Henry S. Joy, of No. Java
Treas.: W. H. Ainsworth of Varysburg
Directors: C. M. Ballord, of Johnsonburg; Hyder Barnes, of Arcade; C. B. Benedict, of Attica; George Hoy, of Orangeville; Orange L. Lozier, of Sheldon; H. B. Rodgers, of No. Java; Obadiah Tilton, of Orangeville; D. C. Warner, of No. Java; George W. Wilder, of Orangeville; Henry W. Wilson, of Arcade.

There were some new directors in 1875, and C. B. Benedict became president.

In Poor's Manual for 1876 it was reported that $77,500 had been paid in.

This illuminating paragraph is found in the 1875 report to the state railroad commissioners: "The building of the Attica and Arcade is still delayed by the interference of another company,* but we regard our company as the only legal one for this route. And as the right of way is nearly all secured, we hope to supply this short and important link, connecting the New York Central with the Atlantic and Great Western † within the next twelve months."

It was expected that the road would be completed before Oct. 1, 1876. Although considerable grading was done construction lagged and the road was never finished.

* This probably refers to the Buffalo & Washington RR Co.

† The A & GW extended from Salamanca to Dayton, O. It is now a part of the Erie.

The corporate powers of the Attica and Arcade were renewed in 1880, but there were no subsequent reports to the state commission.

The area in western New York through which the Attica and Arcade Railroad and its successors traversed was located near the junction of Cattaraugus and Clear Creeks. This area was first explored by an Abraham Jackson of Vermont in 1807, who staked out some claims before returning home. Settlers shortly appeared, and a village called China was founded. The tract of China included Java, 10 miles to the north, until the year 1832 when Java was set off as a separate entity.

Mr. Soranson writes: "During early 1852 a wave of enthusiasm was kindled in the village of China by persons soliciting stock subscriptions for a proposed rail-road connecting with Attica, N. Y. and the outside world; this custom had fired the imagination of many other rural communities, both in New York and Pennsylvania. This project evidently received considerable support in this particular territory, for the following year witnessed grading, bridge building, and construction of culverts, as well as laying of some rails. However, when the money which had been raised was exhausted, the project was abandoned and lay dormant for years.

"Shortly after the conclusion of the Civil War, the most important event, if not the most imposing, was in 1866, when the name of the village of China was changed to the town of Arcade.

"During the year 1870 rail connections with the outside world again entered the minds of the citizens, and the people of this section were presented with two projects. The first was solicitation of funds amounting to $50,000 for aid in constructing a railroad known as the Buffalo and Washington Railroad Co., which after doing some preliminary work was reorganized and called the Buffalo, New York and Philadelphia Railway Co. (This became the Western New York and Pennsylvania, and is now incorporated into the Pennsylvania system.)

"The other was the well-known original Attica railroad project of 1852, which was revived, but not until eleven years later did the first train run into Arcade. This venture was officially known as the Tonawanda Valley and Cuba Railroad Co. (The name of one of the directors, George R. Blanchard, became quite familiar to the writer early in his railroad career; he was vice-president of the old Addison and Northern Pennsylvania Railway, and, I believe, one of the engines bore his name.)

"The first depot in Arcade was a small house on Water St., and Mr. W. W. Wade was the first station agent. In Dec., 1881, the road was completed to Main St., to a place called Railroad Block, which had been so-named thirty years previously, shortly after road began to extend eastward. On July 18, 1882, it entered the town of Sandusky, a distance of about 3 miles, and in September of the same year had been completed to Cuba. After many financial troubles which frequently occurred during the next twelve years, the company was forced to suspend operations.

"Although the railroad prospects in 1881 were extremely heartening with two companies in operation, rumors persisted that another project was under formation, for a third line, which would eventually enter

Williamsport, Pa., and would be routed through Wellsville, Belmont, Belfast, Rushford and Freedom. This failed to materialize until twenty-five years later, when the Buffalo and Susquehanna Ry. entered the picture, with their line through Arcade to Buffalo.

"While working on the Addison and Northern Pennsylvania, and the Bradford, Eldred and Cuba, the writer knew a number of engineers and trainmen who had experienced employment on the former Tonawanda Valley and kindred roads in the Wellsville and Bradford oil fields."

TONAWANDA VALLEY RAILROAD CO.

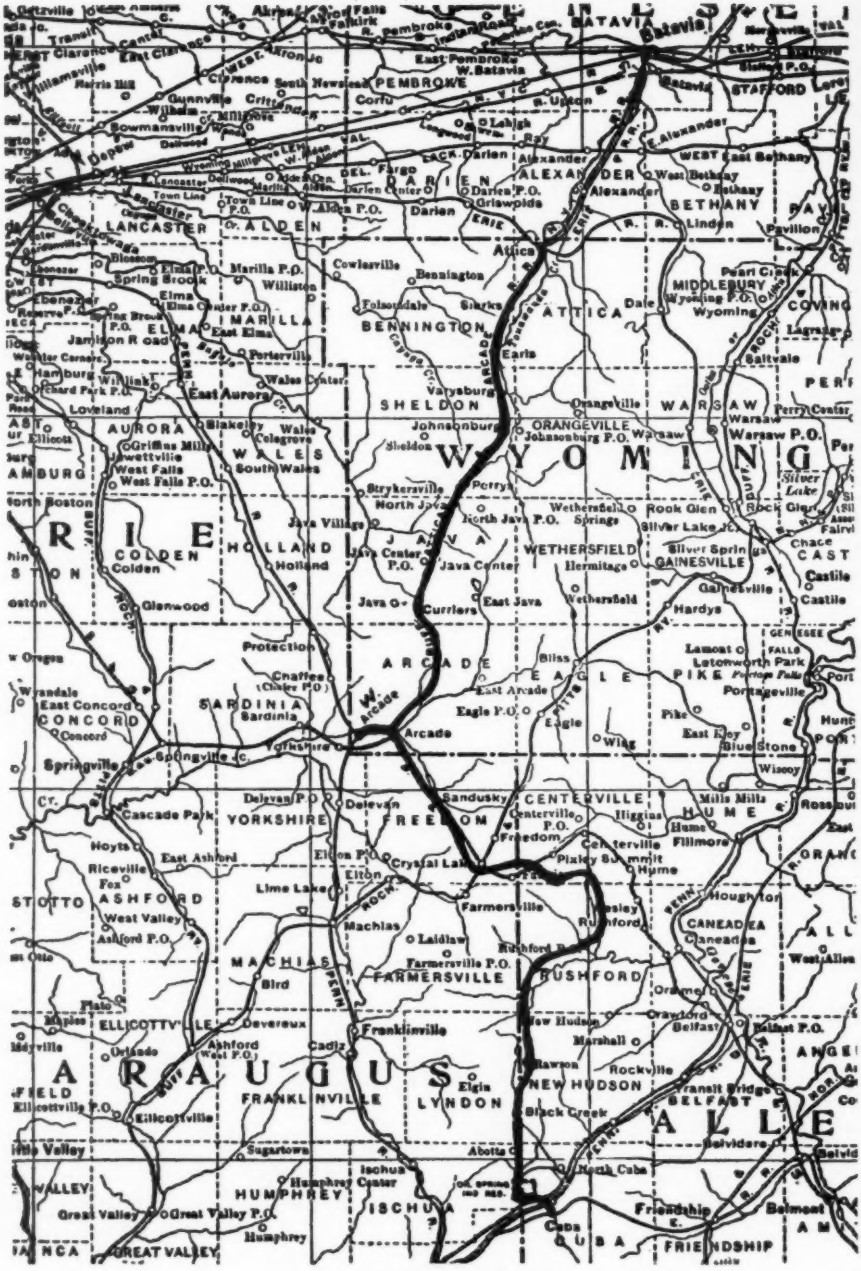
Articles of Association for the Tonawanda Valley Railroad Company were drawn up on Apr. 5, 1880, with a capitalization of $250,000. The road, to be built was a narrow gauge of 3 feet, was to extend from Attica to the line of the Buffalo, New York and Philadelphia Ry. in Sardinia, a distance of twenty-four miles. The contract for its construction was awarded to Craigie, Rafferty and Yeomans, of Buffalo. The line followed the partially-graded roadbed of the old Attica and Arcade. In general, it was 6-8 miles west of but parallel to the Rochester and State Line RR. Construction was begun in May, and the road was opened by an excursion from Attica to Currier's (19 miles) on Sept. 11th of the same year. The first train from Attica ran into Arcade on May 16, 1881.

The officers and directors were as follows:

Pres. Richard G. Taylor, of Buffalo
Vice-pres. Ruben H. Farnham, of Attica
Sect. and Supt. John V. D. Loomis, of Attica
Treas. Bird W. Spencer, of New York.
Directors, George R. Blanchard, of New York; James D. Fish, of New York; David Kirkpatrick, of Attica; Calvin Littlefield, of New York; Gad C. Packer, of Varysburg; Robert S. Stevens, of Attica; Congdon S. Thompson, of Attica; Frank M. Welder, of Binghamton; George M. Wells, of Attica.

None of the directors were the same as those of the Attica and Arcade, but it appears that the New York, Lake Erie and Western was greatly interested in the Tonawanda Valley, for several of the officers and directors held positions on that road. They also held offices on other roads in which the NYLE & W had an interest.

George Roberts Blanchard was born in Rochester on June 15, 1841, and educated in private schools. His railroad experience began in 1858, when he became a clerk with the Cincinnati and Chicago RR. at Richmond, Ind. He took a similar position with the Ohio and Mississippi on May 1, 1860, moving to Cincinnati. He next became the chief freight clerk at St. Louis in 1861, and general freight agent on May 1, 1862. He took the same position on the Central Ohio RR., which was leased to the B & O in 1867. On Oct. 1, 1872 he became the general freight agent of the Erie under Watson. He was vice-president for 10



"Tonawanda Valley and Cuba R.R."

years from July 1, 1874. He was assistant to the receiver from 1875-1878, and to the president from 1878 to 1882. He was also the vice-president of the Addison and Northern Pennsylvania, the Bradford, Eldred and Cuba, and its two subsidiaries. He left the Erie in 1884, and served thereafter on various traffic commissions.

James D. Fish was the president of the Marine National Bank of New York, the failure of which is described under Spencer. He was also a director of the NYLE & W.

David Kirkpatrick, son of Wiliam, was born in Romulus on Dec. 29, 1820. He worked in his father's gristmills from childhood. Starting in 1850 for nine years he was a foreman on the Erie Ry; for the next twenty-three years he was the track supervisor on the Western and Buffalo divisions. On July 12, 1881, he became superintendent in charge of building the Tonawanda Valley and Cuba RR from Cuba to Attica. He lived in Attica from 1867 to 1881, and after that time in Cuba. Mr. Kirkpatrick was a public spirited citizen, encouraging every local improvement. He was a village trustee for several years.

Spencer, the treasurer of the New York, Lake Erie and Western, was a director of the New York firm of Grant and Ward. The failure of this company, after the failure of the Marine National Bank of New York (though the first really caused the second) brought about a near panic, and resulted shortly in the bankruptcy of the NYLE & W. Spencer was also treasurer of the BE & C and of the Addison and Northern Pennsylvania.

Taylor was president of the Bradford, Eldred and Cuba, and its two subsidiaries; vice-president of the Bradford, Bordell and Kinzua, and of the Addison and Northern Penna.; and he was a division superintendent of the New York, Lake Erie and Western.

TONAWANDA VALLEY EXTENSION RAILROAD

The Tonawanda Valley Extension Railroad Co. was chartered on Nov. 3, 1880, with a capital stock of $120,000, to extend the line of the Tonawanda Valley from Currier's Corners in Java to Sardina, a distance of eleven miles. (This would make it appear that the TV ran out of funds after constructing the nineteen miles from Attica to Currier's.) Since this road was to be an extension of the TV, the gauge was the same, 3 feet. In the report there was no mention of officers and directors, but since it was an extension, they were probably the same as those of the parent company.

THE (FIRST) TONAWANDA VALLEY AND CUBA RAILROAD CO.

The Articles of Association of this company were dated July 14, 1881, and the capitalization was set at $250,000. The line was projected between Arcade and Cuba, a distance of thirty miles, and was to have a gauge of 3 feet. There was no mention of officers or directors in the report to the railroad commissioners.

It is surmised that this company was only a temporary organization, until the necessary arrangements could be made to unite the Tonawanda Valley, the Tonawanda Valley Extension, and this one into the second Tonawanda Valley and Cuba Railroad Co.

THE (SECOND) TONAWANDA VALLEY AND CUBA RAILROAD

The second Tonawanda Valley and Cuba Railroad Co. was formed on Aug. 27, 1881, with a capitalization of $600,000, by a consolidation of the Tonawanda Valley, the Tonawanda Valley Extension, and the (first) Tonawanda Valley and Cuba Railroad Companies. It had a narrow gauge of 3 feet.

The new construction from Arcade to Cuba passed through Sandusky and Rushford. The line crossed the Rochester and Pittsburgh (later the Buffalo, Rochester and Pittsburgh) near Fish Lake; and the Buffalo, New York and Philadelphia (shortly the Western New York and Pennsylvania; now Pennsylvania RR) in Cuba by means of long trestles. The total length was 59.09 miles.

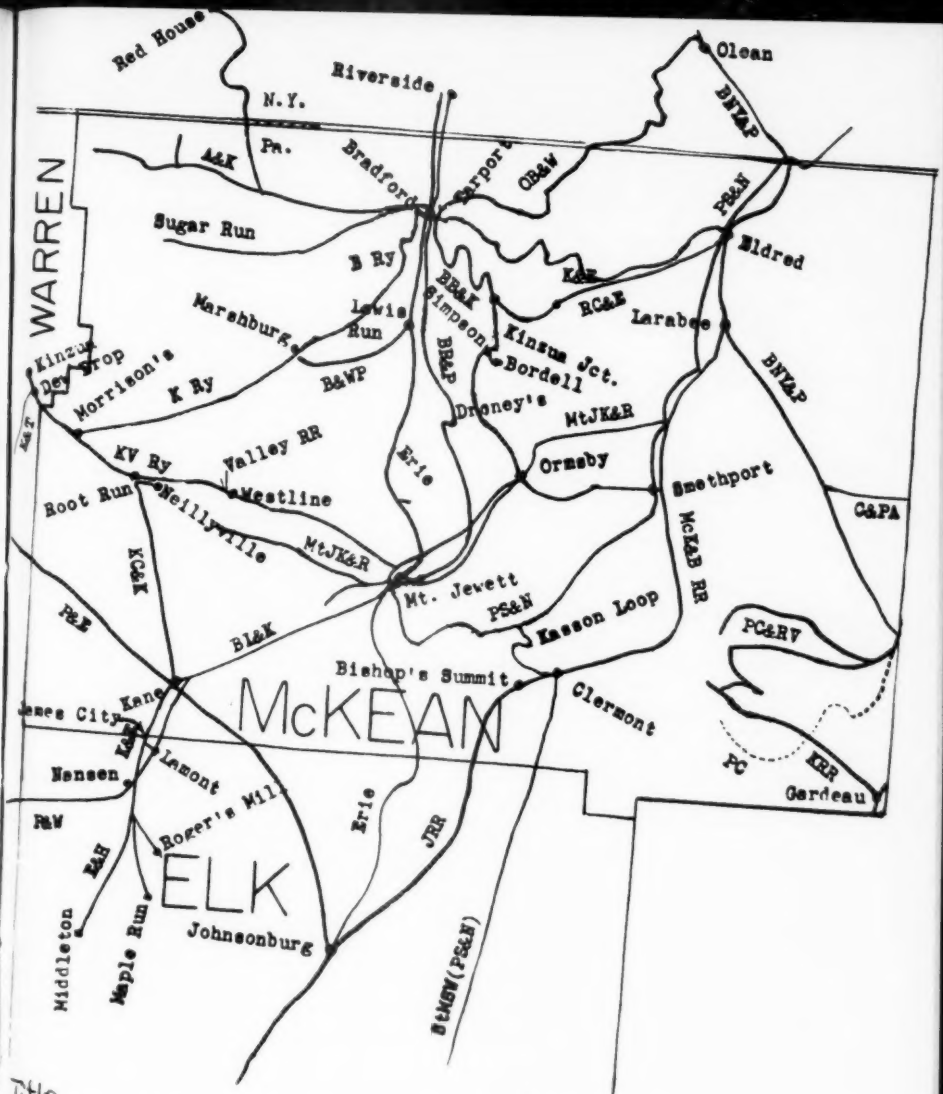
The TV & C had a direct connection in Cuba with the Bradford, Eldred and Cuba. The combination was sometimes spoken of locally as "the narrow gauge system of the New York, Lake Erie and Western Railroad." The two roads had separate organizations, but were operated under common management until 1885, after which they were operated independently. By virtue of this connection with the Bradford, Eldred and Cuba, entry was gained into the Allegany County oil field of New York, and with a subsequent connection via the BE & C with the 3-ft. Bradford, Bordell and Kinzua the Bradford oil district in Pennsylvania was reached.

The extent of the interest which the New York, Lake Erie and Western had in this road was shown in two ways. First they guaranteed the bonds under a contract dated Mar. 12, 1883 [the details are given under the Bradford, Bordell and Kinzua]. Second, the list of officers and directors included important ones from the larger road.

Pres. Richard G. Taylor, of Buffalo (p. 54)
Vice-pres. George R. Blanchard, of New York (p. 54)
Treas. Bird W. Spencer, of New York (p. 54)
Directors, Wilson D. Bissell, of Buffalo; Edmund S. Bowen, of New York; James H. Loomis; Robert S. Stevens, of Attica; Congdon S. Thompson, of Attica.

Bissell was a director of the Bradford, Bordell and Kinzua; secretary of the Bradford, Richburg and Cuba and of the Wellsville, Bolivar and Eldred; sect.-treasurer of the Buffalo and Southwestern Railroad. (This standard gauge road, between Buffalo and Jamestown, N. Y., and which totaled 67.47 miles, was opened in 1875. It was reorganized in 1877, and on Aug. 1, 1881, it was leased to the NYLE & W.)

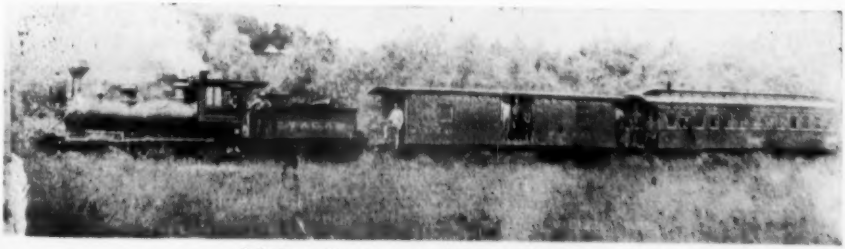
Bowen, a native of Lock Haven, Pa., was the general superintendent from 1876; second vice-president, 1883-1884; vice-president, 1884-1885,



Title.

The Railroads of McKean County, Pennsylvania

The Railroads of McKean County, Pennsylvania.



A train on the Tonawanda Valley and Cuba.

of the New York, Lake Erie and Western, and a director of the Bradford, Eldred and Cuba. He subsequently became the last general manager of the Rome, Watertown, and Ogdensburgh, from which position he went to the New York and New England as a superintendent. According to Edward Hungerford, he was "a quiet, gentle sort of a man . . . thorough, conscientious, apparently seeking to please . . ."

Construction was begun in 1881 at Cuba and at Hardy's (3 miles south of Rushford) but work was suspended shortly until 1882, when it was resumed all along the line, and the road was hurried to completion. In Rushford, J. B. Gordon, C. J. Elmer, C. W. Woodworth, O. T. Stacy, W. E. Keyes, W. W. Bush, and others raised about $18,000 for bonds and $1,200 for a right of way, and built a roundhouse.

W. W. Bush was a merchant and broker of Rushford in 1865; W. W. Bush & Co. was formed in 1871, the other members of the firm being W. E. Keyes and O. T. Stacy. He was also the town collector.

Charles J. Elmer, son of David, was born in Hume in 1830. He had the common school education, and became a teacher; after 5 years of teaching in Penna. he returned to Rushford and established a pineapple-cheese factory with Robert Norton. In 1864 he bought the Rushford Cheese factory—his business averaged 40,000 boxes per year. He was a private banker for 28 years.

Jedediah B. Gordon, son of William, was born in Rushford on Sept. 7, 1812. He was an assessor and supervisor in 1875-1876. He operated a woolen mill. He organized a stock company to hunt for oil in Rushford, an unsuccessful venture.

W. E. Keyes was a banker, a lodge man, and a brother-in-law of Dr. O. T. Stacy.

Dr. Orrin T. Stacy, son of Dr. William G., was born in Centerville in 1835. He had the common school education, and was a teacher for a short time. He read medicine in his father's office, graduated from the Buffalo Medical College in 1860, and practiced in Rushford for 25 years; he moved to Rochester in 1885, where he continued to practice until his retirement in 1893. He served two terms in the state legislature, being elected on the Republican ticket. His house was badly damaged in the flood of 1864. The firm of Stacy and Kendall were private bankers beginning in 1872.

Charles W. Woodworth was born at Rushford in 1822. He was educated at the common schools and Springville Academy. He studied law, being admitted to the bar in 1856, and practiced in Rushford until his death in 1891 in the two firms, Steward & Woodworth, and Woodworth & Lanning. He was the postmaster from 1860 to 1884, justice of the peace from 1882, and a supervisor from 1865-1874, being chairman of the board from 1882-1887. He was one of Rushford's ablest and most representative citizens.

In June the track laying gang from Cuba reached Rushford; the residents turned out in great numbers to celebrate. An excursion train to Cuba was run on July 4th. However, the three miles between Arcade and Sandusky were not completed until July 18th. The whole road was

opened for traffic on Sept. 4th, and on the 25th the first "timetable" went into effect.

The stations and mileage between them were as follows: Attica, 0.0; Sierks, 3.3; Earls, 5.6; Varysburg, 7.5; Johnsonburg, 9.6; Perrys, 12.6; No. Java, 13.2; Java Center, 16.7; Currier's 19.1; Howard's Mill; Arcade, 25.9; Sandusky, 29.5; Howlett's, 31.8; Fish Lake, 33.1; Fairview, 36.5; Summit, 38.4; Rushford, 44.6; Hardy's 47.4; Rawson's, 51.5; Morgan, 55.1; Cuba, 59.1.

The TV & C had facilities at Attica and at Cuba for interchanging cars with the wider gauge NYLE & W, replacing the small trucks with larger ones, and vice versa. The road started with one locomotive and sixteen cars; in 1883 there were five locomotives and 20 cars. The trains ran at an average speed of 15 miles per hour including stops, or 17 miles per hour actual running time.

Mr. Kirkwood states that he was told that there were 2-6-0 locomotives numbered 4 and 5 on the TV & C. They were built by the Pittsburgh Locomotive Works in 1882. These engines were sold to the Bradford, Bordell and Kinzua, and renumbered 8 and 9 respectively. From Bulletin No. 49, p. 43, we learn that TV & C No. 2 was loaned to the Addison and Northern Pennsylvania in the fall of 1882, when tracklaying started; TV & C No. 1 was also loaned at a later date. These borrowed engines were returned when the A & NP locomotives arrived.

The TV & C reported a surplus of $22.05 from the first sixteen days of operation! At the end of the year a deficit of $347.09 was reported; this was but the first of a whole string of deficits. In 1883 the deficit was $91.61.

In 1883 the state inspectors reported that the right of way was mostly unfenced, the weeds were uncut, and the general appearance was untidy. The old roadbed was of good width, but the new was mostly quite narrow. On embankments the slopes started right at the ends of the ties. The ties were widely spaced on trestles, and there were no guard rails either here or on sharp curves. Generally the road had the appearance of hasty construction. In 1884 the road was reported as being much improved in appearance.

In 1884 B. C. Williams was the general manager. In May of this year a night freight was added—this was the high point in the history of the road. A glance at the timetable shows one through first-class train and two through second-class trains daily each way. The first class train left Attica at 8:33 AM and arrived at Cuba at 11:47 AM; returning, it left Cuba at 12:40 PM and arrived in Attica at 4:08 PM. The running time for the 59 miles was about three and one-half hours. First class trains were also run daily between Rushford and Cuba, and Attica and Rushford—thus the latter town could boast of having the best train service of any town on the road. The second class trains required six and one-half hours to cover the distance between the termini. It is interesting to note the regulation "Second-class trains must keep out of the way of first-class trains going in either direction."

By 1885 the deficit had reached a total of $131,163.97. The road had defaulted on the TV & C bonds on Sept. 1, 1884, and on the Tonawanda

Valley bonds on Nov. 1st. A suit for forclosure was therefore begun by the Metropolitan Trust Co. of New York, and on Nov. 29, 1884, the road was placed in the hands of a receiver. The treasurer, B. W. Spencer, was appointed to this office.

On Jan. 19, 1885 the mail train was taken off, and the employees struck for four months' back pay. Business was soon resumed, but the service was irregular. Another strike for pay occurred in Nov. 1885. In Dec. the bonds taken by Rushford parties were sold at 24.5 cents on the dollar (not a pleasant subject for Rushford people to discuss).

The TV & C was operated from Oct. 1st to Dec. 1st, 1885, and closed from that date to Apr. 1, 1886, owing to severe storms, so that it could not be operated safely during the winter. The road was opened until Sept. 20, 1886. Irregular service was kept up until Oct. 16th, when the receiver discontinued the operation of trains south of Sandusky. Rust and weeds flourished there until the rails were removed in 1894.

In 1889 there was a new set of officers and directors, all from New York City. The president was P. F. Bellinger; vice-president, August Stein; and the directors included Senator Thomas Platt, his brother, Frank H. Platt, and Theodore F. Wood.

Senator Thomas C. Platt (Apr. 15, 1833-March 6, 1910) was a staunch member of the Conkling political machine of New York in 1880; both he and Conkling resigned during Garfield's administration over a disagreement with the president. Platt became boss of the New York Republican machine, and was returned to the U. S. Senate 16 years later. He is best known politically as the author of the Platt Amendment (1901) which practically made Cuba a protectorate of the United States. With the gradual decline of Imperialism and the realization that a spirit of good will was preferable to American control, the Platt Amendment was abrogated in 1934. After experience in the lumber business in Michigan, Tom Platt first comes to our notice as president of the Tioga National Bank and in the early 1880's as president of the United States Express Co., the Addison and Northern Pennsylvania Railway,* and the New York and North Pennsylvania Railroad (BULLETIN No. 49, page 42). He was also president of the Southern Central, and Tennessee Railroad Companies. He was appointed receiver for the Bradford, Eldred and Cuba in 1885 and for the Addison and Northern Pennsylvania in 1886; he became president of the Addison and Pennsylvania, formed by the reorganization of the latter, in 1887. In 1894 he was one of the two receivers for the New York and New England Railroad Co.

After May 1, 1889, August Stein, who was a director of the Bradford, Bordell and Kinzua in 1893 and the treasurer of the Dansville and Mt. Morris (a road between those towns, in adjacent territory), became the receiver. The superintendent was B. P. Humphrey. In 1889 the state inspectors reported that the roal was "in lamentable condition," and that "the rail is much of it bent and kinked, both vertically and horizontally."

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*Locomotives on this road were named for Platt, Conkling, and Geo. R. Blanchard (p. 54).

On Jan. 19, 1891 the Tonawanda Valley and Cuba Railroad Co. was sold to a committee of bondholders for $33,500. At this time the road was being operated for 33 miles only, between Attica and "Freedom." This section was reorganized as the Attica and Freedom Railroad Co. The remaining portion, between Freedom and Cuba was not included in the reorganization, and in 1894 it was abandoned and the rails taken up.

Freedom is a township, which includes the villages of Freedom, Sandusky and Fish Lake (later elevated to Crystal Lake!). The TV & C never entered the village of Freedom, nor connected with the Rochester and Pittsburgh, which it crossed at Fish Lake by an overpass. A portion of the old roadbed may have been used subsequently by the Buffalo and Susquehanna (Wellsville to Buffalo extension), since on the map the lines appear to coincide between Arcade and Sandusky. The B & S Ry. crossed the BR & P at Fish Lake on an overpass—this section, including the bridge, are now a part of state highway 98.

It is assumed that the "Freedom" above is Fish Lake, since that is the only point 33 miles from Attica. This assumption seems warranted, for it is noted under the Attica and Freedom that when that road was reorganized as the Buffalo, Attica and Arcade, the seven miles between Arcade and Freedom were abandoned, but in 1901 a 7-mile extension to Fish Lake was in progress.

ATTICA AND FREEDOM RAILROAD CO.

This was the reorganization of the Tonawanda Valley and Cuba, which was sold to a committee of bond holders on Jan. 19, 1891. It is extended thirty-three miles from Attica southward into Freedom township. The southern end of the TV & C still belonged to the bondholders and was not included in the Attica and Freedom.

The officers were all from New York City.

Pres. Richard B. Ferris
Vice-pres. August Stein (p. 59)
Sect.-Treas. William Jay

The road passed through a very rich farming country, but the railroad did not have enough cars to handle the business, which therefore, went elsewhere. It had two 4-4-0 locomotives.

In 1893 the inspectors received an unfavorable impression; they reported that "Words almost fail in attempting to describe the condition of rail, joints, sleepers, bolts and roadbed. The rail is so worn—that it is impossible to exceed speeds of six to eight miles per hour—horizontal and vertical kinking is so bad—track is so overgrown with weeds and grass that the sleepers cannot be seen . . ."

As the road had continued deficits, it was sold under foreclosure on Mar. 3, 1894 to a committee of bondholders. Operations were discontinued and the line was abandoned.

BUFFALO, ATTICA AND ARCADE R. R. CO.

On Oct. 15, 1894, the purchasers of the Attica and Freedom organized the Buffalo, Attica and Arcade Railroad Co. This was to be a

standard gauge road, and operate between Attica and Arcade, using the former narrow gauge roadbed. The seven miles between Arcade and Freedom were abandoned and the rails taken up. Neither the Attica and Freedom nor the Buffalo, Attica and Arcade operated anything except work trains in 1894. The 19 miles from Attica to Currier's were relaid and put into operation on Jan. 9, 1895, and the remainder by Dec. 1st.

The officers and directors of the Buffalo, Attica and Arcade, elected on Jan. 25, 1897, were as follows:

Pres. Spencer S. Bullis, of Olean, N. Y.
Vice-pres. Clinton V. Merrick, of Bradford, Pa.
Sect.-Treas. W. W. Bell, of Bradford.
Directors, G. A. Barnes, of Arcade; George W. Conklin, of Attica; J. W. Jones, of Johnsonburg;* John E. Mason, of No. Java; F. J. Schwab, of No. Java; Orrin P. Stockwell, of Attica.

The office was in Olean.

In 1901 a seven-mile extension to the BR & P at Fish Lake was reported as "in progress," but as no further mention of this was found it was probably never completed. At the same time ("Railroad Gazette" of Jan. 24, 1902), a 29-mile connection between Java and Buffalo was contemplated, but nothing came of this either. The branch from Arcade to Arcade Jct. (PRR) was abandoned when the Buffalo and Susquehanna built their Buffalo extension.

A group of lumber interests, dominated by S. S. Bullis of Olean, appeared in northwestern Pennsylvania in the late 1880's. The Bullis Lumber Co. organized and built the Kinzua Valley RR. in 1887-1892; Bullis was president and director until it was sold to the WNY & P, after which he continued as a director. The Allegheny and Kinzua was also one of this company's projects; Bullis was president of this road, too. Apparently finding railroad operation to their liking, the group bought control of the Buffalo, Attica and Arcade in 1894, and of the Buffalo, Bradford, and Kane in 1905; through the latter they controlled the Big Level and Kinzua. Bullis was president of the BA & A and first vice-president of the BB & K.

S. S. Bullis was born on July 7, 1849 in E. Aurora, N. Y. He was educated at E. Aurora Academy and at Fort Edward Collegiate Institute. He entered the railway field as above-mentioned. In 1900 his address was given as Gulfport, and in 1905 as Vicksburg, both of Mississippi. This was because the Bullis group had moved to the southern forests in that state and had secured considerable interests in the Gulf and Ship Island RR, † Bullis being the vice-president and general manager. However, in 1901, the Railroad Gazette reports that J. T. Jones of

* It is probably coincidental that the initials are the same as those of the BP & W president.

† The Gulf and Ship Island is now a part of the Illinois Central system.

Buffalo had bought the interests of S. S. Bullis and W. W. Bell (treas. of the G & SI), thus becoming the sole owner. Bullis died in Medford, Ore. about 1940.

The other members of the lumber group were W. W. Bell, A. B. Campbell, D. H. Jack, C. V. Merrick, and R. S. Bullis, all of Bradford, and G. P. Bullis, of Beaumont, Texas. Bell was president of the Buffalo, Bradford & Kane, and of the Big Level and Kinzua; sect.-treas. and director of the BA & A in 1897; and treasurer and auditor of the Bradford and Western Pennsylvania (p. 67) in the same year. He was also treasurer of the G & SI.

R. S. Bullis was secretary of the BB & K and the BI & K.

Campbell was a director of the BB & K, and the succeeding Buffalo, Bradford and Kane and stayed with the BA & A, being auditor and traffic manager in 1911.

Jack was a director of the Buffalo, Bradford and Kane, the Kinzua Valley, and Gulf and Ship Island Railroads.

Merrick, formerly trainmaster on the Susquehanna Division of the Erie, was the general superintendent of the Bradford, div. of the NYLE & W in 1886; of the Allegheny and Kinzua in 1892 and of the Sugar Run 1896-7; director of the Buffalo, Bradford and Kane, and Gulf and Ship Island Railroads.

In the first issue of the Railroad Gazette for 1905 it was reported that the Buffalo, Attica and Arcade had been purchased by the Goodyear interests in connection with their expansion of the Buffalo and Susquehanna from Wellsville, west to Buffalo. Hence a new group of officers and directors, all of Buffalo, were elected on Jan. 16, 1905.

Pres. Frank Henry Goodyear
Vice-pres. Charles W. Goodyear
Sect.-Treas. Fred A. Lehr
Aud. William H. Baumes
Directors, Walter C. Cooke, Ganson Depew, Henry H. Gardiner (general freight and purchasing agent), A. C. Goodyear, G. M. Sicard, G. O. Wagner.

Curiously enough, the Goodyear group had control of the Buffalo, Bradford and Kane before Bullis and his associates (p. 61).

Anson Conger Goodyear was the son of a C. W. Goodyear, and was very prominent in the management of the New Orleans Great Northern RR. That road was to become a part of the Gulf, Mobile and Ohio, with A. C. Goodyear eventually becoming chairman of the board of directors.

The future of the Buffalo, Attica and Arcade might have been entirely different had F. H. Goodyear lived long enough to realize his plans. In the disintegration of the Buffalo and Susquehanna on his death in 1907 (BULLETIN No. 49, p. 41) * the small road was neglected. It was sold under foreclosure on May 24, 1917 to a local group, who reorganized it as the Arcade and Attica Railroad Corporation.

The A & A is still in operation for freight only, on a very light schedule. It is a favorite road for railway fan trips. One diesel combination car and an ancient ten-wheeler, No. 6, are the present source of motive power.

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* Not mentioned in this account is the fact that C. W. Goodyear was a director of the Tionesta Valley RR. for several years from 1896.

TONAWANDA, GENESEE VALLEY AND PINE CREEK RAILROAD CO.

During the early 1880's when railroads were being projected throughout the area, two other 3-foot lines were visualized, the Tonawanda, Genesee Valley and Pine Creek, and the Tonawanda, Wiscoy and Genesee Valley Railroad Co. Both were to start from the line of the Tonawanda Valley Railroad.

Articles of Association were filed for the Tonawanda, Genesee Valley and Pine Creek RR on Dec. 2, 1881, with a capital stock of $200,000. It was planned to construct the road from the Tonawanda Valley in Rushford to Wellsville, 28 miles (or the state line beyond, 38 miles), following the Genesee River most of the way.

The officers and directors were as follows:

Pres. Asahel N. Cole, of Wellsville
Vice-pres. Rufus Scott, of Wellsville
Sect. John H. Selkreg, of Ithaca
Treas. Oliver L. Mather, of Wellsville
Directors, Harvey Alger, of Wellsville; George H. Blackman, of Belmont; Goodrich H. Bush, of Westfield, Mass.: William Wallace Byrns, of Belfast; Hiram A. Coates, of Wellsville; Henry R. Lewis, of Wellsville; Alfred D. Tingley, of New York.

This organization made no report to the state commission after 1883, so it may be concluded that it perished from inability to secure stock subscriptions and lack of interest.

Capt. George H. Blackman was born in Plymouth, Chenango County, on Apr. 23, 1841. He studied law at Wellsville and was admitted to the bar in 1873 in Rochester. He enlisted as a private in the 93rd New York regiment, and received five wounds at the Battle of the Wilderness in 1862, after which he walked 18 miles to Fredericksburg; he then had to wait for eight more days before his right arm was amputated. After a forty-day furlough, he rejoined his regiment, of which he then took command, serving until the close of the war. He subsequently became a member of the legal firm of Rude and Blackman, until he was elected county clerk in 1876. For nine years he was a trustee of the New York State Soldiers' Home at Bath. He was a deputy internal revenue collector for years.

William Wallace Byrns was the secretary of the first board of education of the village of Belfast.

Hiram A. Coates was a son of Welcome H. Coates. In 1866, with his brother, Walter B., the Coates Bros. firm in the furniture trade was estabished.

Asahel N. Cole was born on Oct. 21, 1821, in Freedom. He was a poor boy, who educated himself to become a successful teacher. He was anti-slavery in sentiment and for a time acted as minister in the Free Methodist Church; his strong views antagonized his associates, so he left this profession and went into the lumbering business. He was a natural politician and organizer (the free Democratic Party). He founded the

Genesee Valley Free Press at Belfast in 1853 to further his views and answer criticisms; from this time he was one of the state's leading journalists. He was an intimate friend of Horace Greeley for twenty-five years. He called the first Republican Convention. He became a lawyer in 1867, but never engaged in practice. He was described as "a man of strong will, opinionated, hot-blooded, with not a little of temper."

Oliver L. Mather, a descendant of the famous Puritan preacher, Cotton Mather, was born in Otsego Cty. in 1826. He began a 40-year service with the Erie as a brakeman on Mar. 1, 1851, and was on the first train that ran through to Dunkirk. He was a station agent at several places, finally settling in that post at Wellsville, where he settled and "led an upright, honorable and useful life."

General Rufus Scott was born in Friendship on Oct. 8, 1838. He attended Friendship Academy and Alfred University, becoming schoolmaster at an early age. He was a good talker and debater, and "stumped" Allegany for Lincoln in 1860. He enlisted as a private in the 23rd New York Regiment on May 1, 1861 and saw considerable service being severely wounded at the battle of Fair Oaks in 1862. He was commissioned a major in 1862 and on Mar. 13, 1865 was breveted a brigadier general for "gallant and meritorious services." (He had been wounded a total of five times.) He studied law and was admitted to the bar at Buffalo in May, 1866; he practiced in Belmont in the firm of Ward and Scott. He was a supervisor of Amity and district attorney for two terms. In 1881 he began oil operations, and moved to Wellsville in 1883, becoming a large operator in the Allegany field as well as a successful litigant against the Standard Oil Co. In 1885 he became connected with the Peerless Carbon Black Co. whose works were in McKean County, Pa.

TONAWANDA, WISCOY AND GENESEE VALLEY RAILROAD CO.

Articles of Association for this company were filed on Dec. 10, 1881, with a capital stock of $175,000. From a study of the conflicting statements in the various reports, it is concluded that it was planned to construct a line, starting from the Tonawanda Valley in Arcade, cross the height of land in Eagle, and then follow Wiscoy Creek through Bliss and Pike to the Genesee River, and terminate at Caneadea. (It is 26 miles from Arcade to Pike, and 20 miles from the latter to Caneadea; these distances are given in the various statements and agree with the actual mileage.) Bliss is on the Rochester and Pittsburgh (later BR & P, now B & O).

The officers and directors were as follows:

Pres. J. Pratt Manchester, of Hume
Vice-pres. George H. Blackman, of Belmont (p. 63)
Sect. Greenleaf S. VanGorden, of Pike
Treas. Carloss Stebbins, of Pike
Directors, Addison J. Beebe, of Pike; Asahel N. Cole, of Wellsville (p. 63); James M. Davis, of Belfast; Marsene Drake,

of Eagle; George A. Greene, of Pike; John S. Minard, of Pike; John H. Selkreg, of Ithaca (p. 63); Milton W. Skiff, of Hume; Alfred D. Tingley, of New York (p. 63).

This organization made no report to the state commission after 1886, so it, too, seems to have been considered impractical.

James M. Davis, son of Elijah Davis, was born in Allen in 1841, and educated in the Belfast Seminary. He became a farmer, and a dealer in horses and livestock. In 1864 he entered the mercantile business, under the name of Lewis and Davis; he bought out his partner in 1866. He was the leading merchant in Belfast for the next twenty-five years, building three stores. He was a private banker for years, eventually organizing and becoming president of the Bank of Belfast in 1882. He was the postmaster for thirteen years, and supervisor in 1883-1884 and 1886-1887. In 1888 he moved to Rochester, and subsequently to Chicago.

James Pratt Manchester, son of Peleg (a farmer) and Acidina Pratt (daughter of the second resident physician of Hume), was born in Hume in 1849, educated in the village and at Rushford Academy. He became a clerk, and in 1875 bought the mercantile business of J. M. Hammond and Co. He opened a private bank which he conducted until 1885. In 1886 he accepted a political appointment to Alaska under the Cleveland Administration (being a lifelong Democrat). On his return (1889) he became the first cashier of the State Bank of Fillmore. He was a supervisor of Hume in 1878-1880. He died in 1890.

John S. Minard, son of George Minard, was born on the Caneadea Indian Reservation in Hume, Jan. 31, 1834. His varied schooling, starting in a log cabin, ended when he was 19 at the Genesee Wesleyan Seminary, when his father died. He remained on the farm until 1871, when he sold his share and invested the proceeds in the mercantile establishment of J. M. Hammond Co. in Hume. After three years' experience here he started his own business, building a new store; he sold this seven years later in 1885. About 1880, with a partner, he bought a large tract of timber and engaged in lumbering. He was supervisor of Hume for two years, town agent on railroad bond matters, a trustee of the cemetery, justice of the peace, an antiquarian, historian and writer. The J. M. Hammond Co. was the forerunner of the Fillmore Banks.

Milton W. Skiff was a son of Joshua B. Skiff. In 1853, there being no bank in Hume, he opened an account in New York, bought and sold exchange, and made collections. He was one of the board of trustees of the Pine Grove Cemetery near Fillmore.

BELMONT AND BUFFALO RAILROAD

The Belmont and Buffalo Railroad Co. was chartered on Feb. 7, 1871, to build a railroad between Belmont, Amity township, and the NYLE & W in Gainesville, a distance of about thirty miles. The road was projected from Belmont, down the west side of the Genesee River,

through Angelica, Belfast, Caneadea, Hume and Pike to E. Gainesville (Silver Springs). The capitalization was set at $600,000, of which $155,000 was subscribed, but only $67,000 had been paid in as of Sept. 30, 1877.

The officers and directors were as follows:

Pres. Moses Taggart, of Batavia (first two years)
Vice-pres. Wilkes Angel, of Belmont (president after first two years)
Sect. William G. Whitney
Treas. John M. Hammond, of Fillmore
Supt. Hiram N. Wheelock, of Belmont
Directors, G. O. Crandall, of Belfast; Miles Dodge, of Wiscoy; Peter Dunn, of Portageville; Shipmond Griffith, of E. Gainesville; Spencer S. Hammond, of E. Pike; Christopher Jennings, of Belfast; Elijah F. Johnson, of Oramel; George W. Stephens, of Oramel; John A. Thompson, of Castile.

The Belmont and Buffalo was never completed. It was graded for a part of the way through Amity, Angelica, Belfast, Caneadea and Hume, and some necessary masonry was installed. One source reported six miles of roadbed laid. A part of this right of way may have been utilized by the Buffalo and Susquehanna's Buffalo extension (Wellsville and Buffalo RR).

The Belmont and Buffalo was placed in receivership on Sept. 13, 1876, and parts of the road were sold to satisfy judgments. Wilkes Angel was appointed as receiver. Several towns have reason to remember the Belmont and Buffalo unfavorably, having been bonded to aid in its construction. The road was extinct by 1881.

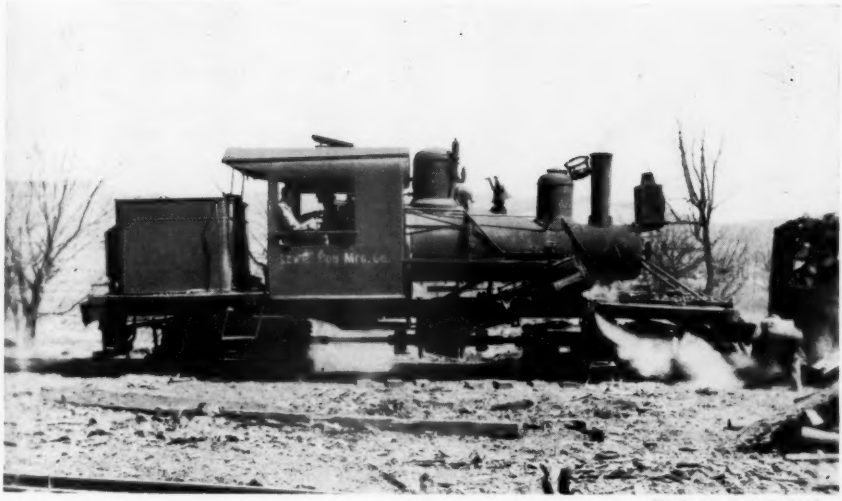
Wilkes Angel, son of William G., was born on Sept. 26, 1815, in Exeter, N. Y. He attended the local schools and Hartwick Academy. The family moved to Hammondsport in 1833 and to Angelica in 1835. He studied law with Angel & Grover, and was admitted to the bar in 1837; he opened a practice in Cuba in 1838. He moved back to Angelica in 1844 and to Belmont in 1866. In 1841 he was appointed district attorney of Allegany County, and master of chancery in 1844. He was the supervisor of Angelica in 1849, 1850 and 1861, and of Amity in 1871. In 1860 he was elected to the state assembly, and in 1861 and 1863 to the senate. He was a successful lawyer and legislator.

Miles Dodge, son of Joseph Dodge, was born in Manchester, Vt., in 1819, one of ten children. His father, a machinist, came to Perry in 1823, and Castile in 1825. Miles was brought up as a machinist; after his marriage he settled in Wiscoy, where he built a large shop for the manufacture of agricultural machinery. During the oil excitement he built steam engines and boilers, employing forty men. He died in 1890.

John M. Hammond, son of John Madison Hammond, was born in 1811. He was an early merchant, tavern keeper and lumber dealer on the river road in Hume. He contracted for and built four miles of the Genesee Valley Canal from Fillmore, southwards, and was twice its superintendent. He was a member of the legislature in 1858, of the con-

Miss Nancy Simmons on "My Hope" enjoys a brisk canter on the now abandoned right of way of the former Bradford & Western Pennsylvania R. R.

Bradford and Western Penna. #2



Kindness of C. L. Collow

Lewis Run Mfg. Co. (Ex B. & W. P.) Locomotive.

stitutional convention in 1867, and so performed his duties, that to his death on March 8, 1887, he was justly and fondly known as "Honest John Hammond." He was the ablest and most noted citizen the town has ever had. He was a supervisor of Hume from 1857 to 1860.

Christopher Jennings, son of James, was born in Lawrenceville, Pa., on Feb. 22, 1808. Coming to Belfast with his parents in 1809, he attained maturity in the pioneer days and was one of those by whose efforts civilization replaced the savage condition. He was a large land-owner and progressive farmer. He built the first brick building in Belfast. He was elected supervisor in 1862 and 1864. He was a man of sterling integrity, and his influence was widely felt in the community. He died on Apr. 26, 1892. His daughter, Emma J., married the banker, James M. Davis (p. 00).

BRADFORD AND WESTERN PENNSYLVANIA

The Bradford and Western Pennsylvania Railroad Co. was organized on July 27, 1891 with a capital stock of $70,000 (of which $36,000 was issued) to build a 3-ft. gauge line from Lewis Run (on the Erie RR.) to Marshburg, 6.5 mi. The road was built in very short sections, not reaching Marshburg until 1895, at which time it was of mixed gauges, two miles being standard and the remainder having a width of 3 ft. It did not connect with the Bradford RR in Marshburg. The cost of the road was given as $46,380.

The officers and directors were:

Pres. Charles S. Whitney, of Belmont, N. Y.
Sect. and Aud. J. A. McKellar, of Bradford
Treas. F. L. Richardson, of Bradford
Directors, E. Breen, of Lewis Run; T. P. Thompson, of Bradford; H. P. Whitney, of Bradford.

The offices were at Bradford. There was a frequent change in officials. In 1897, C. S. Whitney was still president; the others who came from Bradford are shown herewith:

Vice-pres. F. W. Davis
Sect. H. P. Whitney
Treas. & Aud. W. W. Bell (p. 62)
Directors E. Breen, C. C. Melvin, T. P. Thompson, A. B. Walker.

In 1899:

Pres. Saul P. Kennedy
Sect. D. L. Mallory, Jr.
Treas. W. C. Kennedy

These, and new directors, were likewise entirely from Bradford.

In 1911 it was operated for freight only between Lewis Run and Big Camp (8 mi.). It was purchased by the Lewis Run Mfg. Co. on Nov. 1, 1912, and parts operated thereafter as a private railroad.

This road had a history of small deficits. For the fiscal year ending June 30, 1896, freight trains were run 3,494 miles, moving 27,055 tons of freight. The earnings were $6,689, operating expenses, $8,353, leaving a deficit of $1,664. By 1910 the deficits totaled $4,672.

In 1905 its equipment was listed as 2 locomotives, one passenger car and 49 freight cars. Mr. Kirkwood states that they bought one locomotive from the Buffalo, Bradford and Kane in 1906.

The date of its abandonment has not been located. The roadbed is now (1947) utilized as a bridle path.

Worth Reading

Compiled by

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BOOKS AND PAMPHLETS

American Railroads—Their Growth and Development, by Association of American Railroads, Transportation Bldg., Washington 6, D. C., 32 p. including maps and illustrations. Published Nov. 1948. Free on request to A. A. R.

American Transportation in Prosperity and Depression, by Thor Hultgren. 394 pp. New York 23, N. Y., National Bureau of Economic Research—Studies in Business Cycles, No. 3. 1948. $5.00. "A Bonanza of Economic Information"—according to ed. note with abstract in Railway Age, Jan. 1, 1949, pp. 26-31.

Chicago and Northern Illinois—America's Greatest Industrial and Transportation Center—MAP, with notes, issued by Territorial Information Department, Marquette Bldg., Chicago 3, Illinois. Price not stated.

Congressional Directory—81st Congress, 1st Session, January 1949 "for the use of the United States Congress" and anyone else who wants to know, for instance—committees dealing with transportation, organization and official duties of executive departments and independent agencies and the many other official data in it, *is expected to be for sale by the end of February* by The Superintendent of Documents, U. S. Govt. Print. Off., Washington 25, D. C. $1.50. Delays in organizing committees have delayed its being printed.

The Economics of Transportation, by Fred G. Gurley, president, Santa Fe System Lines. Address before Bankers Club of Kansas City, Missouri, Dec. 6, 1948. 14 pp. Free on request to Public Relations, Santa Fe System Lines, Chicago 4, Ill. ". . . Near Kansas City was the eastern terminus of the great trail to and from Santa Fe, New Mexico, which in the beginning was an international venture. . . . Just as the traffic of the Santa Fe Trail inspired the construction of the Santa Fe Railroad, I am inspired today by the philosophy and the methods of the operators of the Trail.

I will quote from an advertisement in the newspapers of July 18, 1857. By this time New Mexico was American territory.

> 'Stages will leave Independence and Santa Fe on the first and fifteenth of each month. They will be entirely new and comfortable for passengers, well guarded and running through each way in from 20 to 25 days. Travelers to and from New Mexico will doubtless find this the safest and the most expeditions and comfortable, as well as the cheapest mode of crossing the Plains. Provisions, arms, and ammunition furnished by the proprietors. The fares from November 1 to May 1—$150 and from May 1 to November 1—$125.'

. . . Arms and ammunition translated into today's situation means—furnishing facts, and explaining our system to a far greater degree than those 'arms and ammunition' have been provided by any of us. Let's do something more about it. . . ." (pp. 1-2)

The fall of a Railroad Empire—Brandeis and the New Haven Merger Battle, by Henry Lee Staples and Alepheus Thomas Mason. 209 p. Illus. Syracuse, N. Y., Syracuse University Press, $2.25. ". . . the authors have tried to tell what we believe to be a significant story reflecting many of the political and economic problems that confronted America in the early twentieth century. We have summarized the analysis of those problems made by a distinguished American leader, the late Justice Louis D. Brandeis. . . ."

Geographie des Chemins de Fer Français—V. 2—Reseaux Divers, by H. Lartilleaux, inspecteur principal à la S. N. C. F. 253 pp., charts, maps, illus. Paris 9, France, Librairie Chaix. Price not stated. V. 1, listed in BULL. No. 73, p. 78.

Lima-Hamilton—Its Historical Past, 1869-1945—and Later, by John E. Dixon. Newcomen Address, New York, December 2, 1948. "The recital . . . represents an industrial history of 103 years of two of America's oldest enterprises in the field of heavy equipment. . . ." 40 p. Illus.

Les Locomotives à Vapeur de la S. N. C. F., by J. Fournereau. 29 p. 100 plates showing steam locomotives of French National Railroads. Montchauvet (S. & O.), France, Editions Lovo-Revue. Price not stated. *Historical summary,* pp. 1-10; *General Classification,* pp. 12, 14. *Locomotives in service at present time, by Regions,* pp. 19-29.

Michigan and the Cleveland Era,—Sketches of University of Michigan Members and Alumni who served the Cleveland Administrations, 1885-1889; 1893-1897. Edited by Earl D. Babst and Lewis G. VanderVelde. Ann Arbor, Michigan, The University of Michigan Press. $2.50. pp. 23-41, *Henry C. Adams,* . . . "Chief Statistician of the Interstate Commerce Commission . . ."; pp. 77-106, *Thomas M. Cooley*— . . . "receiver of the Wabash Railroad. Chairman of the original Interstate Commerce Commission . . ."; pp. 183-193, *Alfred Noble*— . . . "Engineer of Pennsylvania Railroad Tunnel into New York City . . ."

The Organisation of British Transport, by Sir Cyril Hurcomb, chairman, British Transport Commission, London, England, His address to Railway Students' Association, Oct. 20, 1948. 25 p. Price not stated. Abstract in The Railway Gazette, London, England, Oct. 22, 1948, pp. 474-475, wth editorial comment: Sir Cyril Hurcomb on Nationalisation's Aims, p. 455.

Overseas Railways—1948, compiled and published by The Railway Gazette, London, England, 33, Tothill St., Westminster, S. W. 1. 5 shillings. 96 pp. incl. illus., maps, tables, and 164 advertising pp. contributing to theme of issue. Foreword, p. 1, mentions: "For many years before the recent war *The Railway Gazette* issued special annual numbers dealing exclusively with overseas railways. The last of these ap-

peared in November, 1939; from then on the war interrupted publication. The restrictions under paper rationing still prevent the resumption of the special annual numbers, but to meet the wishes of many who have urged the need for an authoritative review of railways overseas the present book has been compiled. It contains contributions from the Chief Officers of many of the principal railways overseas, and a feature of this publication is the inclusion of many specially drawn maps. . . ." Railways in Africa, pp. 2-20, 33-39; *Palestine Railways—the closing of an interesting chapter in British Colonial history,* by A. F. Kirby, general manager & ports authority, Palestine Railways & Ports, 1942-1948, mentions ". . . The accounts for the last year were taken only until February, 1948, because all essential records were destroyed when the railway headquarters offices were gutted by fire during the battle of Haifa in April, 1948." (p. 23); Railways in India and in Pakistan, pp. 24-32, 41; Burma Railways, pp. 65-68; Malayan Railway [formerly Federated Malay States Ry.], pp. 69-72; Australian Railways, pp. 42-47, 72-79; New Zealand Railways, pp. 48-49, 80-82; Railways in Canada, pp. 50-56, 83-85; *The Railways of Argentina,* pp. 86-88, mentions: ". . . By recent decree [of President Peron] the principal railways are to bear the names of outstanding figures in Argentine history, as follow . . .:. . ."—Illustrations p. 57 use the new names to identify station and railroad; *The Railways* of Brazil, pp. 58-63, 89-92; *Antofagasta (Chili) & Bolivia Railways,* p. 93; *Central Railway of Peru,* pp. 64, 94-96.

Pioneer Railroad—The Story of the Chicago and North Western System, by Robert J. Casey and W. A. S. Douglas. New York, Whittlesey House, McGraw-Hill Book Co., Inc. $4.00. 344 pp. Illus. Appendix, pp. 289-320, lists presidents of C. & N. W. and Galena and Chicago Union; directors and terms of office; stations, with brief history of the Chicago passenger stations, and notes of construction of lines now part of C. & N. W. and C. St. P., M. & O.

QUIZ on Railroads and Railroading—Seventh Edition, December 1948, prepared by and free on request to Association of American Railroads, Transportation Bldg., Washington 6, D. C. 268 questions with answers. Illus. ". . . The present printing . . . contains the latest available information on a wide range of railway topics. . . ." (Foreword).

Railroad Transportation—A Statistical Record 1911-1947, compiled by and free on request to Bureau of Railway Economics, Association of American Railroads, Transportation Bldg., Washington 6, D. C. II, 38 pp. *Sources of Statistics,* p. II. *Classification of Railroads,* p. II.

Report on Transport in Ireland, 1948, by Sir James Milne. Dublin, Eire, Government Publications Sales Office, 3-4 College St. 3 shillings, 6 pence. Abstract in Railway Gazette, December 31, 1948, pp. 760-761, with ed. comment, p. 740, and summary of comment by D. Morrissey, Irish Minister for Industry & Commerce, p. 762.

Richmond, Fredericksburg and Potomac Railroad in the Second World War, by John B. Mordecai. 37 pp. ports., facsimiles of awards "for distinguished service" from the President of the United States and

the Armed Forces. Illustrations include: The Rappahannock Bridge, Potomac Yard, and Acquia Creek Bridge. Published by the RF & P, Richmond, Virginia, April, 1948.

Salt Report for the B & O Area, by Industrial Development Staff, The Baltimore & Ohio Railroad. Cover-title, 56 l. incl. maps, graphs, tables. Free on request to Manager, Industrial Development, Traffic Dept., The B & O RR. Baltimore 1, Maryland. "The body of this report is divided into two sections, one for ROCK SALT and one for BRINE. . . . The APPENDICES include data that is considered too abstract, or too technical, to be of general interest, but which may be of value in a careful study of the subject. A BIBLIOGRAPHY is included . . . An evaluation of the references is made . . ." (p. 4)

The 727th Railway Operating Battalion in World War II, by The Battalion Staff, 102 pp., Illus., Maps. New York 7, N. Y. Simmons-Boardman Publishing Corp., $5.00, *U. S. A.—Organization, Activation and Training—Birth of a Military Brain Child,* pp. 1-15. *North Africa—Our Most Spectacular Operation—on-the-Job Training,* pp. 16-34. *Sicily—A Most Complete Operation—A Real Job with Blood and Guts,* pp. 35-47. *Italy—Operations from Potenza to Pisa—Ripping the Soft Under-Belly of the Axis,* pp. 48-69. *France—Supporting the Southern Invasion—Railroading to the Rhine,* pp. 70-83. *Germany—The End of the War—The 727th Rolls Over the Rhine,* pp. 84-92. *In Retrospect,* p. 94. *Our Complete Roster,* pp. 95-102.

South Shenandoah Valley of Virginia, prepared by and free on request to Chesapeake Western Railway Co. Harrisonburg, Virginia. Cover-title, 16 pp. incl. Maps, Illus. Describes the industrial assets of the area—location—climate—resources and utilities—transportation by rail, air, and truck—labor—government and life. ". . . It is a land of thrifty people . . ."

U. S. Interstate Commerce Commission. 62d Annual Report . . . November 1, 1948. iv,186 pp. For sale by Superintendent of Documents, U. S. Govt. Print. Off., Washington 25, D. C. 35 cents (paper); $1.00 (cloth). *Transportation during the Year,* pp. 1-9. *Progress of the Railways—Operating Efficiency and Financial Position,* 1921-22 and 1946-47, pp. 9-22, *Developments in Integration, pp. 54-59*

ARTICLES IN PERIODICALS

A Britisher Looks At American Railroads, by J. A. R. Pimlott. Wheels, published by American Car & Foundry Co., Jan.-Feb. 1949, pp. 11-15.

The Channel Tunnel Co. Ltd.—Statement made to a Joint Committee of both Houses of Parliament on December 1, 1948, by Sir Herbert Walker, Chairman of the company. Railway Gazette, December 10, 1948, pp. 663, 673. Reviews history of Channel Tunnel projects from the 1870s to the present. ". . . The new Channel Tunnel Railway . . . The total length . . . will be 44 miles, divided as follows: Open railway on the English side, 3 miles; the actual tunnels, 36 miles, of which 24 will be under the sea and 5 miles in open country on the

French side [to join the main Calais-Paris railway near Boulogne]. . . . total cost of 66 million. . . . The tunnel cannot be ready for operation before 1960, . . ."

The Diesel Locomotive—Preface of a New Era. Midwest Engineer, November 1948, pp. 8-11. *See also* The Story of the Diesel, by Harvey T. Hill, exec. director, Diesel Engine Mftrs. Assoc., pp. 3-8.

European Inland Transport Since the End of the War. "A brief review" by Transport Division, United Nations Secretariat of the Economic Commission for Europe. United Nations Transport and Communications Review, October-December 1948 [v. 1, no. 2], pp. 14-26. *Railways pp. 16-19.* Road Transport, pp. 19-21. *Inland Waterways,* pp. 21-25. *Conclusions,* pp. 25-26, mentions: ". . . Such developments as have taken place lately in the fields of international road transport (agreement on freedom) and of railway transport (resumption of R. I. V.) may be interpreted as signs of a desire for closer international co-operation. It is to be hoped that this spirit will prevail in future, particularly in the sphere of inland navigation, where much remains to be accomplished. . . ."

The Gas Turbine Locomotive, by L. K. Sillcox. American Railway Engineering Association BULLETIN 476, November 1948, 149-156. "The Question of Fuel "pp. 149-151. "Powdered Coal as a Fuel" pp. 155-156.

Gas Turbines on Wheels. Midwest Engineer, November 1948, pp. 15-17.

Hi-Line, Vol. 1, No. 1, January 1949—Published by Pittsburgh & West Virginia Ry. Co., with announcement by Charles J. Graham, president: "It gives me a great deal of pleasure to announce . . . the beginning of a company publication designed to provide the employees with information about the operation of the railroad. . . ."

The Little Train, by Francis Steegmuller. The New Yorker, December 18, 1948, pp. 83-88. Citizens of Lutzelbourg, Lorraine, France, are still trying to find out the names of two American aviators, who bombed the train on October 17, 1944, after warning the citizens to get it out into open country. The track runs thru the main street, and the train was loaded with land mines. The citizens would like to thank the aviators.

The Pan-American Railway Congress—An Institution of the Service of Railways and of Continental Solidarity, by Joaquin Nuñez Brian, general secretary of the Pan-American Railway Congress Association. United Nations Transport and Communications Review, October-December 1948, pp. 27-34. *Members*—table showing member countries, dates of adherence, number of member-railroads in each country, and kilometrage, p. 29.

Passenger Progress Number—1948. Railway Age, November 20, 1948. Detailed, illustrated accounts of passenger service and equipment. *The Nation's Streamliners,* pp. 167-169, lists 119 "different streamliners, made up with 249 complete sets of rolling stock, currently operating on American railroads."

The Spanish Railway Centenary. Railway Gazette, December 10, 1948, p. 656. ". . . The celebrations . . . lasted for a week from October 24 to 31 . . ." Brief history of the 100 years, mentions: ". . . The total route-mileage in Spain is now 10,563, of which 7,958 miles are broad gauge (5ft. 6in.), and 2,838 miles are narrow gauge (mostly metre). . . ."

State Transport's First Year. Railway Gazette, December 31, 1948, pp. 739-740. Editorial summary and comment.

State Transport's First Year—New Year Message to Staff, by Sir Cyril Hurcomb, chairman, British Transport Commission. Railway Gazette, January 7, 1949, pp. 21-22. Editorial note, p. 1, begins: "The importance of the railway system in the transport organisation of this country is clearly implicated by the prominence given it by Sir Cyril Hurcomb in his New Year Message to British Transport Commission staff, . . ."

Statistical and Outlook Number, Railway Age, January 8, 1949. Vol. 126, *no. 2.* Detailed reviews of the railroad year 1948. Illus., Tables. Includes: *Electrical applications—the changing base line,* by Alfred G. Oehler, pp. 174-175, which mentions: "When a Diesel-electric locomotive was tried on an American railroad in 1924, it was looked upon as a noble experiment. . . . The Diesel-electric locomotives now in service in the United States represent about 10,000,000 installed engine horsepower . . . The potentialities of the gas-turbine-electric locomotive are now being tried out on the rails. . . . A glance at other electrical applications gives further indication of basic changes . . ." and *A Review of Railway Operations in 1948,* by J. H. Parmelee. The latter will be reprinted by permission, when final statistics become available, as a Special Series Bulletin of Bureau of Railway Economics, A. A. R.

. . . *The Steam Turbine-Electric Locomotive of the Chesapeake and Ohio Railway*—"For more effective use of fuel." Midwest Engineer, November 1948, pp. 18-19.

Symbols and Totems Used by the British Transport Commission and Its Executives. Illustrated. Railway Gazette, December 24, 1948, p. 716.

New Books

MEN, CITIES AND TRANSPORTATION, by Edward Chase Kirkland. Two volumes, 1026 pages, 9¼ x 6, illustrated, indexed. Bound in cloth. Published by Harvard University Press, Cambridge (38), Mass. Price $12.50.

This is a study in New England Transportation History from 1820 to 1900 and the author has succeeded in presenting one of the most comprehensive and documented accounts of its development that has ever been presented. Altho' we all know that New England, from point of view in area, is only a small portion of the United States, the author has likened its physical characteristics to the entire country in a rather interesting fashion. The Connecticut River is the New England Mississippi, minus of course such rivers as the Ohio and Missouri. Long Island Sound is New England's Gulf of Mexico, the Connecticut forming the great central river valley. West of the Connecticut rises New England's Continental Divide, extending from Canada through Massachusetts and these western mountains slope away to Lake Champlain and the Hudson, the Pacific Coast of the New England country. To the east of the Connecticut comes a tumble of hills and mountains, extending in haphazard fashion to the White Mountains in New Hampshire, the highest peaks in New England. These are the Appalachian's of New England.

From 1820, when the New Englander traveled or shipped his goods over the highway, the turnpike, the canal, river or lake, coasting vessels or coasting steamers, down to the formation of our great railroad systems, eighty years later, the author has presented a panorama of the great changes that have been worked out in this section. We read of the great rivalry between Boston and New York, which still exists, we are shown the rivalry between Boston and Providence and between Boston and the cities to the eastward, Salem, Portsmouth and Portland. These cities had their ambitions and their rivalries, both in railroad development and in coastal trade to the South and West.

The construction of the more important railroads, their effects upon the towns and cities are all carefully discussed—the present Boston & Albany, the Hoosac Tunnel and the Boston & Lowell-Concord-Northern-Vermont Central, the latter with its long receivership and much scandal, have each been accorded a chapter. Other roads, such as the Boston, Hartford & Erie, the New York & New England, the New York, New Haven & Hartford are given the same privilege.

Of the men who founded, planned, built and operated these roads, the author has given much more than passing mention. He has given us a full chapter on the railroad commissions and shown that through the efforts of Charles Francis Adams, Jr., the one in our own "Bay State" was held in high esteem and respect, even though it had no authority to enforce its decisions. A railroad would have been very foolish to have disregarded them, however.

There are chapters covering Rates and Services, the Safety Movement and Technical Change, Stocks, Bonds and Promotors, the Men who

managed these railroads and their Corporate Structure and Government. It is a book for the economist, the business historian, the railroad man and the railroad and shipping enthusiast for, here is the whole story of the growth of the New England transportation system. And, it is only fair to state, since we have likened New England to the entire United States, this section too has had its "good" corporations and those that were not so good. Some, thanks to their managers, left a trail of destruction and ruin that it took time to recover and, some have not recovered.

In closing this review, your Editor is taking the liberty of expressing a hope for future histories. This book is the third in eleven years covering, in general, this same subject. Prof. George Baker traced the beginnings and the formation of our New England railroads ending with 1900. Alvin F. Harlow covered the same subject and the same period but in a much lighter vein. Prof. Kirkland has covered the entire transportation field for almost the same period. Each author has acquitted himself nobly, some have enlarged their field to the delight of the historian. But, with these three books now published, it seems to your Editor that now is the time to ring down the curtain for this particular subject for this particular period. New England transportation history did not cease when the clock struck 1900. In the forty-eight years that have elapsed, quite a lot has happened that should and must, at some future date be recorded. If some future historian must write of this section, then let him confine his efforts to the twentieth century. Better still, there are other sections of this vast country whose transportation history has been but lightly touched, let him undertake some of that history, where it is badly needed. Men, Cities and Transportation has filled a long felt need in covering adequately the transportation history of New England during a time of national growth and expansion. The books deserve a special niche in our library and the author may rest well satisfied with his years of research and his efforts.

RAILROADING FROM THE REAR END, by S. Kip Farrington, Jr. 430 pages, 8¼ x 5½, illustrated, indexed, bound in cloth. Published by Coward McCann Co., New York, N. Y. Price $5.00.

During the past few years the author has covered pretty much of this country and this book is a series of chapters of some of the outstanding railroad achievements during the past decade. The first chapter gives an account of a interesting ride, in the caboose of the Seaboard Despatch, a fast freight on the Seaboard Air Line. There are interesting chapters on the Santa Fe covering the movement of crops and how their officials cover their respective divisions; the Great Northern; the Milwaukee; a ride on the overnight freight train between San Francisco and Los Angeles on the Southern Pacific; the fruit trains of the Erie; the war work done by the American Locomotive Co., and last but not least, two interesting chapters on the Boston & Maine, one covering the restoration after the destructive hurricane of 1938.

We all know the railroads did a superb job during the war years despite the many and varied shortages and in this book the author has narrated some of these events together with some prior to the war. He

has told of these accounts in a simple, straight-forward and interesting manner and to the average "fan", the book cannot help but be of great interest and appeal.

PRISCILLA OF FALL RIVER, by Roger Williams McAdam. 224 pages, 6 x 9, illustrated, indexed. Bound in cloth. Published by Stephen Daye Press, New York, N. Y. Price $3.75.

On May 19, 1947, the famous Fall River Line would have completed a century of service. Altho' one might suppose that this book was a story of their most famous steamboat, the book covers more than that, it covers a history of the line.

The author has elected the narrative method of recounting the history, both of this line and famous steamship and he has handled it in a highly entertaining fashion. Just look up your "Who's Who in America" and you will find that sooner or later they patronized this line in their travels. It was *the* line between Boston and New York and, for years, two steamers in each direction left Fall River and New York each evening. As many as 1800 passengers have been handled in one night in one direction alone.

The Priscilla made her first voyage on June 25, 1894 and always was the acknowledged queen of the sound, which even the Commonwealth, built some fifteen years later could never take from the Priscilla. She was the masterpiece of George Pierce, the famous naval architect and this magnificent ship, because of her beauty and dependability was beloved by millions of Americans who had known her during her forty-three years of service. Fall River Line men were trained on these boats, they all commenced at the bottom and worked up, the line never went outside for its officers. And, mark this, in the ninety years of service, only one passenger lost his life on the steamboats through a collision and not one lost his life on the steamboat train. Through Long Island Sound and around "Point Jude" these steamboats travelled in safety and, when called upon, never hesitated to render assistance to other steamers. It was a line of which the Old Colony was proud and that goes for a lot of us that came from the Old Country. I know of no other line that has or can equal this safety record for all of these years.

The reasons for the discontinuance of this line are all well known as are the arguments advanced by the New Haven R. R. The one wherein the line had to compete when the road reduced its passenger fares to 2c per mile is a bit overdrawn for, early in this century that was the standard rate in the entire state and the line competed successfully.

The reason lies elsewhere. For the first two decades after the Old Colony lease which brought to the New Haven the Fall River Line, the New Haven carried on much in the same way but, with this slight difference. Under Old Colony management, their service was built around this line. When you left New York, you were reasonably certain of being landed, by connecting train, at any point on the Old Colony and, in the summer time the White Mountains, promptly and with despatch. It not only applied to passengers but freight as well. Under the New Haven management, this line became secondary as time passed, though its

control, with the other Sound Lines fitted in well with their scheme of domination from 1903-1913.

However, when the financial crash came in the fall of 1913, the fine service that the New Haven gave was seriously slashed though some partial restoration was made after the first cut but, at this end of the road, at least, all service was directed towards Boston and the connections made at the many junction points were abandoned, much to the disgust of the patrons and their loss in patronage. Despite competition of the "outside line", Priscilla and her sisters hung on but, with the defeatist element in control of the New Haven, everything, save of the former Boston & Providence R. R., that was connected with the Old Colony became tainted and the management which appears to have been working for that end, seized the opportunity caused by the sit down strike to end the service.

Could they have done differently? Certainly, had they wanted to. In more recent years, the travelling public disliked the time of departure and arrival, which, in years gone by were not held as objectionable. They disliked the early morning departure of the train from Fall River to Boston which was around 6:45 A. M. The Old Colony followed this one with one an hour later for those who wanted to sleep longer and there was no direct service to the Cape, such cities as Brockton and to the north as offered in Old Colony days. The time of departure from Boston at 6:00 P. M. was bad. You either had to grab a bite to eat before you left or else wait until 7:30 P. M. until you could dine on the boat. To ride in steel equipment that had been baking in the sun all day in the Dover St. Yards compared to climbing onto the Eastern Steamship boat that left at 5:00 P. M. did not encourage travel. Incidentally, the Old Colony, even though their vestibuled equipment was of wood, kept those cars in a long shed in Roxbury and they were not backed out until time to back them into the station. All this, through lack of foresight and common sense on the part of the New Haven officials hurt the line and, it could have been rectified by the use of some intelligence. People of south-eastern Massachusetts wanted and were willing to go to New York but not via Boston.

And so, Priscilla and her sisters, the Puritan, Pilgrim, Plymouth, Providence, the Commonwealth and others, built especially for Sound service and could not run elsewhere were put up for sale, with the stipulation that the purchaser could not use them in Sound service! Yes, you know the answer, boats which, when new represented a cost of millions were sold for $88,000. for junk. Well might the tears stream down the faces of those who had officered them or the people who had watched them pass each evening as they saw them towed off to their unhappy fate. It was a sad day for Massachusetts when we allowed the New Haven corporation to enter this state and it was a sad day for New England when those in charge of the New Haven management between the years 1903 and 1913 made such an unhappy mess of things which are still in evidence today. Probably never again will we see such beautiful boats as the Priscilla and her sisters plow the waters of Long Island

Sound and Mount Hope Bay; their record is untarnished and will be one of which we will always be proud. Ninety years of faithful service, one of the finest ever seen in our coastal waters, service that storm, fog or ice could never stop, was swept away in a Connecticut courtroom with five words in one hundred and ten minutes! The defeatists achieved their ends but it is nothing in which they can take any pride.

In Memory Of

W. E. Butler

Annual Member

1515 Front St., San Diego (1), Cal.,
who died on July 13th, 1948

Frank C. Cline

Life Member

231 West 8th St., Anderson, Ind.,
who died on October 1st, 1948.

Frank D. Fenderson

Annual Member

Alfred, Maine
who died on January 10th, 1949.

T. J. O'Shaughnessy

Annual Member

139 West Van Buren St., Chicago (5), Ill.,
who died on October 30th, 1948.

S. G. Reed

Annual Member

3702 Mt. Vernon St., Houston (6), Texas
who died on August 2nd, 1948

C. L. Terroux

Annual Member

48 Rutland Road, St. Lambert, P. Q., Canada
who died on November 6th, 1948.